# **Analytical Data Package Prepared For**

# **Pacific Northwest National Lab**

Radiochemical Analysis By

# **STL Richland STLRL**

2800 G.W. Way, Richland Wa, 99354, (509)-375-3131.

Data Package Contains \_\_\_\_\_ Pages

Report Nbr: 34621

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W05099	107-019	B1LN79	J7A200173-1	JM5M91AA	9JM5M910	7026384
	S07-001	B1LNW1	J7A200176-1	JM5PC1AA	9JM5PC10	7026396
		B1LNV6	J7A200176-2	JM5PE1AA	9JM5PE10	7026396
	107-016	B1LK81	J7A220119-1	JM6FX1AA	9JM6FX10	7026400
	W07-012	B1LJF6	J7A220134-1	JM6JQ1AC	9JM6JQ10	7026402
		B1LJF6	J7A220134-1	JM6JQ1AD	9JM6JQ10	7026396
		B1LJF6	J7A220134-1	JM6JQ2AA	9JM6JQ20	7026401
		B1LJH1	J7A220134-2	JM6J21AA	9JM6J210	7026396
		B1LJ93	J7A230123-1	JM7NK1AA	9JM7NK10	7026396
	107-021	B1LPJ8	J7A230125-1	JM7PP1AA	9JM7PP10	7026384
	S07-001	B1LNM1	J7A230129-1	JM71V1AA	9JM71V10	7026384
		B1LNM2	J7A230129-2	JM72X1AA	9JM72X10	7026384
	A07-001	B1LN27	J7A230163-1	JM7311AA	9JM73110	7026400
		B1LN27	J7A230163-1	<b>JM7311AC</b>	9JM73110	7026396
		B1LN35	J7A230163-2	<b>JM7381AA</b>	9JM73810	7026385

**Comments:** 

Report Nbr: 34621

SDG Nbr ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W05099 A07-001	B1LN35	J7A230163-2	JM7381AC	9JM73810	7026400
	B1LN35	J7A230163-2	JM7381AD	9JM73810	7026396
	B1LN38	J7A230163-3	JM74E1AA	9JM74E10	7026385
	<b>B1LN38</b>	J7A230163-3	JM74E1AC	9JM74E10	7026400
	B1LN38	J7A230163-3	JM74E1AD	9JM74E10	7026396
	<b>B1LN42</b>	J7A230163-4	<b>JM7401AA</b>	9JM74010	7026385
	B1LN42	J7A230163-4	<b>JM7401AC</b>	9JM74010	7026400
	B1LN42	J7A230163-4	<b>JM7401AD</b>	9JM74010	7026396
	B1LN42	J7A230163-4	<b>JM7401AE</b>	9JM74010	7026383
	B1LN43	J7A230163-5	<b>JM7421AA</b>	9JM74210	7026385
	<b>B1LN43</b>	J7A230163-5	<b>JM7421AC</b>	9JM74210	7026400
	<b>B1LN43</b>	J7A230163-5	<b>JM7421AD</b>	9JM74210	7026396
	<b>B1LN43</b>	J7A230163-5	<b>JM7421AE</b>	9JM74210	7026383
W07-011	B1L6J0	J7A230259-1	JM8V01AA	9JM8V010	7026382
	B1L6D8	J7A230259-1	JM8V21AA	9JM8V210	7026382
	B1L6H6	J7A230259-1	JM8VH1AA	9JM8VH10	7026382



**STL Richland** 2800 George Washington Way Richland, WA 99354

Tel: 509 375 3131 Fax: 509 375 5590 www.stl-inc.com

# **Certificate of Analysis**

Pacific Northwest National Laboratories Sigma V Building Richland, WA 99352

March 8, 2007

Attention: Dot Stewart

SAF Number : A07-001, S07-001, W07-011, I07-021,

I07-019, I07-016, W07-012

Date SDG Closed : January 22, 2007

Number of Samples : Twenty (20)

Sample Type : Water SDG Number : W05099

Data Deliverable : 45-Day / Summary

# **CASE NARRATIVE**

#### I. Introduction

Between January 18, 2007 and January 22, 2007, twenty one water samples were received at STL Richland (STLR) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Pacific Northwest National Laboratories (PGW) specific IDs:

PGW ID#	STLR ID#	<b>MATRIX</b>	DATE OF RECEIPT
B1LN79	JM5M9	WATER	1/18/07
B1LNW1	ЈМ5РС	WATER	1/18/07
B1LNV6	JM5PE	WATER	1/18/07
B1LK81	JM6FX	WATER	1/19/07
B1LJF9	JM6JQ	WATER	1/19/07
B1LJHI	JM6J2	WATER	1/19/07
B1LJ93	JM7NK	WATER	1/22/07
B1LPJ8	ЈМ7РР	WATER	1/22/07
B1LNM1	JM71V	WATER	1/22/07
B1LNM2	JM72X	WATER	1/22/07
B1LN27	JM731	WATER	1/22/07
B1LN35	JM738	WATER	1/22/07

B1LN38	JM74E	WATER	1/22/07	
B1LN42	JM740	WATER	1/22/07	
B1LN43	JM742	WATER	1/22/07	
B1L6H6	JM8VH	WATER	1/23/07	
B1L6J0	JM8V0	WATER	1/23/07	
B1L6D8	JM8V2	WATER	1/23/07	
B1LBT8	JM820	WATER	1/23/07	
B1LC67	JM822	WATER	1/23/07	

#### II. Sample Receipt

The samples were received in good condition and no anomalies were noted during check-in.

#### III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

### **Gas Proportional Counting**

Gross Alpha by method RICH-RC-5014 Gross Beta by method RICH-RC-5014 Strontium-90 by method RICH-RC-5006

### Gamma Spectroscopy

Gamma Spec (LL) by method RICH-RC-5017 Iodine-129 (LL) by method RICH-RC-5025

### **Liquid Scintillation Counting**

Enriched Tritium by method RICH-RC-5024 Technetium-99 by TEVA method RICH-RC-5065 Tritium by method RICH-RC-5007

### **Laser Induced Phosphorimetry**

Total Uranium by method RICH-RC-5058

#### IV. Quality Control

The analytical results for each analysis performed includes a minimum of one laboratory control sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted in the "Comments" section.

OC and sample results are reported in the same units.

#### V. Comments

#### **Gas Proportional Counting**

### Gross Alpha by method RICH-RC-5014:

In the original batch the duplicate was out. It was rerun with good results. Except as noted, the LCS, batch blank, samples and sample duplicate (B1LJF9) results are within contractual requirements.

#### Gross Beta by method RICH-RC-5014:

The sample and the duplicate have extremely high results due to high dissolved solids. Except as noted, the LCS, batch blank, samples and sample duplicate (B1LJF9) results are within contractual requirements.

#### Strontium-90 by method RICH-RC-5006

The LCS, batch blank, samples and sample duplicate (B1LNM1) results are within contractual requirements.

### Gamma Spectroscopy

### Iodine-129 (LL) by method RICH-RC-5025:

The LCS, batch blank, samples and sample duplicate (B1LN27) results are within contractual requirements.

#### **Liquid Scintillation Counting**

#### Technetium-99 by TEVA method RICH-RC-5065:

The LCS, batch blank, samples, sample duplicate (B1LN35), and sample matrix spike (B1LN27) results are within contractual requirements.

#### Tritium by method RICH-RC-5007:

The LCS, batch blank, samples and sample duplicate (B1LN35) results are within contractual requirements.

### Enriched Tritium by method RICH-RC-5024

The enriched tritium analysis was not completed at the time of reporting.

#### **Total Uranium**

### Total Uranium by method RICH-RC-5058:

The LCS, batch blank, samples, sample duplicate (B1LN43), and sample matrix spike (B1LN42) results are within contractual requirements.

#### **Chemical Analysis**

#### Total Coliform by method 9223

The LCS, batch blank, samples and sample duplicate (B1L6J0) results are within contractual requirements.

# Pacific Northwest National Laboratories March 8, 2007

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager, or a designee as verified by the following signature.

Reviewed and approved:

Sherryl A. Adam Project Manager

### **Drinking Water Method Cross References**

	DRINKING WATER	ASTM METHOD CROSS REFERENCES
Referenced Method	Isotope(s)	STL Richland's SOP number
EPA 901.1	Cs-134, I-131	RICH-RC-5017
EPA 900.0	Alpha & Beta	RICH-RC-5014
EPA 903.1	Ra-226	RICH-RC-5005
EPA 904.0	Ra-228	RICH-RC-5005
EPA 905.0	Sr89/90	RICH-RC-5006
ASTM D2460	Total Radium	RICH-RC-5027
Standard Method 7500-U-C & ASTM D5174	Uranium	RICH-RC-5058
EPA 906.0	Tritium	RICH-RC-5007
NOTE:		
The Gross Alpha LCS is prepared with Am-24		
The Gross Beta LCS is prepared with Sr/Y-90	(unless otherwise s	pecified in the case narrative)

### **Uncertainty Estimation**

STL Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, R = constants \* f(x,y,z,...). The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties  $(u_i)$  are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty  $(u_c)$  multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value (S/vn), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

**Report Definitions** Action Lev An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit. The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed Batch together. Bias Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30. COC No Chain of Custody Number assigned by the Client or STL Richland. Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same Count Error (#s) units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background. All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure Total Uncert (#s) of the uncertainty associated with the result, u<sub>c</sub> the combined uncertainty. The uncertainty is absolute and in the  $u_c$  - Combined same units as the result. Uncertainty. (#s), Coverage The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations. Factor Contractual Required Detection Limit as defined in the Client's Statement Of Work or STL Richland "default" CRDL (RL) nominal detection limit. Often referred to the reporting level (RL) Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume Lc associated with the sample. The Type I error probability is approximately 5%. Lc=(1.645 \*  $Sqrt(2*(BkgrndCnt/BkgrndCntMin)/SCntMin))*(ConvFct/(Eff*Yld*Abn*Vol)*IngrFct). \ \ For \ LSC \ methods \ the \ \ ConvFct/(Eff*Yld*Abn*Vol)*(ConvFct/(Eff*Y$ batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero. The number assigned by the LIMS software to track samples received on the same day for a given client. The **Lot-Sample No** sample number is a sequential number assigned to each sample in the Lot. MDC|MDA Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. MDC = (4.65 \*Sqrt((BkgrndCnt/BkgrndCntMin)/SCntMin) + 2.71/SCntMin) \* (ConvFct/(Eff \* Yld \* Abn \* Vol) \* IngrFct). For LSC methods the batch blank is used as a measure of the background variability. **Primary Detector** The instrument identifier associated with the analysis of the sample aliquot. The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is Ratio U-234/U-238 1.038. Rst/MDC Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result. Rst/TotUcert Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result. Sample Identifier used by the report system. The number is based upon the first five digits of the Work Order Report DB No Number. RER The equation Replicate Error Ratio =  $(S-D)/[sqrt(TPUs^2 + TPUd^2)]$  as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUd is the total uncertainty of the duplicate sample. Sample Delivery Group Number assigned by the Client or assigned by STL Richland upon sample receipt. **SDG** The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where Sum Rpt Alpha the results are in the same units. Spec Rst(s) Work Order The LIMS software assign test specific identifier.

The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.

Yield

3/8/2007 9:13:25 AM

# STL Richland Report

Lab Code: STLRL

FormatType: FEAD Version: 05 Rpt Nbr: 34621 File Name: h:\Reportdb\edd\FeadIV\Rad\W05099.Edd, h:\Reportdb\edd\FeadIV\Rad\34621.Edd FormNbr: R OC Lab Client Test Contract SAF Nbr Sdg Moisture/ Distilled Sample Collection Nbr Nbr: Type: Solids%\*: Volume On Date: Date: Sample Id: ld: User 9JM5M910 B1LN79 MW6-SBB-A1 107-019 W05099 01/18/2007 12:54 CAS# CntU 2S TotU 2S Qual MDA TrcYield Method Ala Size Analy Date/Time Batch Analyte Result Unit Act SRISO SEP PRE 1.0035E+00 3.1E+01 4.57E-01 72.5 02/11/2007 09:25 7026384 SR-90 10098-97-2 2.14E+02 3.3E+00 QC Distilled Collection Lab Client Test Contract SAF Nbr Sdq Moisture/ Sample User Nbr Nbr: Type: Solids%\*: Volume On Date: Date: Sample Id: ld: 9JM5PC10 B1LNW1 MW6-SBB-A1 S07-001 W05099 01/18/2007 12:54 CAS# Result CntU 2S TotU 2S Qual MDA TrcYield Method Ala Size Analy Date/Time Act Batch Analyte Unit 7026396 TC-99 14133-76-7 1.66E+00 pCi/L 4.0E+00 5.7E+00 11 9.65E+00 100.0 TC99 ETVDSK LS 1.252E-01 02/03/2007 15:12 QC Distilled Collection Client Contract SAF Nbr Sdg Moisture/ Sample Lab Test User Nbr Nbr: Type: Solids%\*: Volume On Date: Date: Sample Id: ld: 01/18/2007 11:14 9JM5PE10 B1LNV6 MW6-SBB-A1 S07-001 W05099 MDA TrcYield Ala Size Analy Date/Time Batch Analyte CAS# Result CntU 2S TotU 2S Qual Method Unit Act 9.71E+00 100.0 TC99 ETVDSK LS 1.263E-01 02/03/2007 15:12 1.09E+01 4.4E+00 6.3E+00 7026396 TC-99 14133-76-7 pCi/L QC Collection Lab Client Test Contract SAF Nbr Sda Moisture/ Distilled Sample On Date: Date: User Nbr Nbr: Type: Solids%\*: Volume Sample Id: ld: 01/19/2007 13:21 9JM6FX10 B1LK81 MW6-SBB-A1 107-016 W05099 Analy Date/Time CAS# Result CntU 2S TotU 2S Qual MDA **TrcYield** Method Ala Size Unit Act Batch Analyte 1129LL SEP LEPS 3.9541E+00 02/21/2007 14:34 1.5E-01 U 2.95E-01 100.3 L 7026400 I-129L 15046-84-1 1.05E-01 pCi/L 1.5E-01 QC Distilled Collection Lab Client Test Contract SAF Nbr Sda Moisture/ Sample On Date: Date: Nbr Nbr: Type: Solids%\*: Volume Sample Id: ld: User W05099 01/19/2007 10:20 9JM6J210 MW6-SBB-A1 W07-012 B1LJH1 CAS# CntU 2S TotU 2S Qual MDA TrcYield Method Alq Size Unit Analy Date/Time Act Result Batch Analyte

	0110111	,			5					#				
Sample Id:	ld:	User	Nbr		Nbr:	Type:	: Sol	ids%*: Volume		On Date:		Date:		
9JM6JQ10	B1LJF6		MW6-SBB-A1	W07-012	W05099	)						01/19/2	007 09:09	
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7026402	BETA	12587-47-2	1.07E+04	pCi/L	6.1E+01	1.4E+03		5.04E+00	0.001	9310_ALPHABETA	1.251E-01	L	02/13/2007 14:56	1
7026396	TC-99	14133-76-7	4.63E+04	pCi/L	1.2E+02	3.1E+03		9.67E+00	0.001	TC99_ETVDSK_LS	1.25E-01	L	02/03/2007 15:12	1

U

QC Distilled Collection Contract SAF Nbr Sdg Moisture/ Sample Lab Client Test Solids%\*: Volume On Date: Date: Sample Id: ld: User Nbr Nbr: Type: 01/19/2007 09:09 9JM6JQ20 B1LJF6 MW6-SBB-A1 W07-012 W05099

5.8E+00

OC

STL Richland

7026396

Lah

TC-99

Client

14133-76-7

Test

2.38E+00

Contract

pCi/L

SAF Nhr

4.1E+00

Sda

9.69E+00 100.0

Distilled

TC99 ETVDSK LS 1.249E-01

Sample

Moisture/

02/03/2007 15:12

Collection

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.

J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).

B Qual- Analyte was found in the associated laboratory blank above the MDC.

3/8/2007	9:13:26 AM				SI	TL Rich	lar	d Repo	rt			I	Lab Code: STLRL	
FormNbr	: R	FormatType: F	EAD <b>Versi</b>	on: 05	Rpt N	<b>br:</b> 34621		File Name:	h:\Reportdb\	edd\FeadIV\Rad\W050	99.Edd, h:\Rep	ortdb\ed	ld\FeadIV\Rad\34621.E	Edd
<b>Batch</b> 7026401	Analyte ALPHA	<b>CAS#</b> 12587-46-1	Result 4.70E+00	<b>Unit</b> pCi/L		<b>TotU 2S</b> 2.2E+00	Qua	I MDA 1.86E+00	TrcYield 0 100.0	<b>Method</b> 9310_ALPHABETA	<b>Alq Size</b> 1.108E-01	Unit L	Analy Date/Time 02/14/2007 11:53	Act
Lab Sample Id: 9JM71V10	Client Id: B1LNM1	Test User	Contract Nbr MW6-SBB-A1	<b>SAF N</b> t S07-001	or Sdg Nbr: W05099	QC Type		Moisture/ Solids%*:	Distilled Volume	Sample On Date:		ı	lection Date: 2007 12:53	
<b>Batch</b> 7026384	<b>Analyte</b> SR-90	<b>CAS#</b> 10098-97-2	Result 1.50E+01	<b>Unit</b> pCi/L	CntU 2S 8.8E-01	TotU 2S 2.3E+00	Qua	I MDA 4.37E-01	TrcYield 75.4	Method SRISO_SEP_PRE	Alq Size 1.0062E+00	Unit L	Analy Date/Time 02/11/2007 09:25	Act
Lab Sample Id: 9JM72X10	Client Id: B1LNM2	Test User	Contract Nbr MW6-SBB-A1	<b>SAF N</b> 8	or Sdg Nbr: W05099	QC Type		Moisture/ Solids%*:	Distilled Volume	Sample On Date:	· · · · · · · · · · · · · · · · · · ·	I	lection Date: 2007 12:53	
<b>Batch</b> 7026384	<b>Analyte</b> SR-90	<b>CAS#</b> 10098-97-2	<b>Result</b> 1.50E+01	<b>Unit</b> pCi/L	CntU 2S 8.2E-01	TotU 2S 2.3E+00	Qua	I MDA 3.94E-01	TrcYield I 79.6	Method SRISO_SEP_PRE	Alq Size 1.0051E+00	Unit L	Analy Date/Time 02/11/2007 09:20	Act
Lab Sample ld: 9JM73110	Client Id: B1LN27	Test User	Contract Nbr MW6-SBB-A1	<b>SAF N</b>	or Sdg Nbr: W05099	QC Type		Moisture/ Solids%*:	Distilled Volume	•		ı	lection Date: 2007 13:25	
<b>Batch</b> 7026400 7026396	Analyte I-129L TC-99	<b>CAS#</b> 15046-84-1 14133-76-7	Result -6.85E-02 1.99E+02	<b>Unit</b> pCi/L pCi/L	CntU 2S 1.5E-01 8.6E+00	TotU 2S 1.5E-01 1.9E+01	<b>Qua</b> U	MDA 2.65E-01 9.62E+0		Method I129LL_SEP_LEPS TC99_ETVDSK_LS		Unit L L	Analy Date/Time 02/21/2007 14:39 02/03/2007 15:12	
Lab Sample Id: 9JM73810	Client Id: B1LN35	Test User	Contract Nbr MW6-SBB-A1	<b>SAF Ni</b> A07-001	Nbr:	QC Type		Moisture/ Solids%*:	Distilled Volume	•		!	llection Date: 2007 12:05	
Batch 7026385 7026400 7026396	Analyte H-3 I-129L TC-99	CAS# 10028-17-8 15046-84-1 14133-76-7	Result 1.36E+03 -1.21E-01 1.40E+02	Unit pCi/L pCi/L pCi/L	CntU 2S 1.7E+02 1.4E-01 7.5E+00	1.4E-01	<b>Qua</b> U	2.94E+0 2.24E-01 9.46E+0	1 100.0	Method 906.0_H3_LSC I129LL_SEP_LEPS TC99_ETVDSK_LS		Unit L L L	Analy Date/Time 02/03/2007 20:32 02/21/2007 16:25 02/03/2007 15:12	5 I

QC Distilled Collection Lab Client Test Contract SAF Nbr Sdg Moisture/ Sample Type: Solids%\*: Volume On Date: Date: Sample Id: ld: User Nbr Nbr: 9JM74010 B1LN42 MW6-SBB-A1 A07-001 W05099 01/22/2007 11:39 CAS# Result Unit CntU 2S TotU 2S Qual MDA TrcYield Method Alq Size Unit Analy Date/Time Act Batch Analyte 7026385 H-3 10028-17-8 1.65E+03 pCi/L 1.8E+02 2.1E+02 2.93E+02 100.0 906.0\_H3\_LSC 5.00E-03 02/04/2007 00:37 I-129L 15046-84-1 -7.92E-02 pCi/L 9.8E-02 9.8E-02 U 1.61E-01 96.8 I129LL\_SEP\_LEPS 3.8424E+00 02/21/2007 16:30 7026400 TC99\_ETVDSK\_LS 1.25E-01 7026396 TC-99 14133-76-7 3.43E+02 1.1E+01 2.9E+01 9.64E+00 100.0 L 02/03/2007 15:12 pCi/L UTOT\_KPA 2.54E-02 8.25E-02 02/28/2007 14:34 7026383 Uranium 7440-61-1 2.13E+01 ug/L 2.6E+00 2.6E+00

STL Richland

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.

J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).

B Qual- Analyte was found in the associated laboratory blank above the MDC.

3/8/2007 9:13:26 AM	STL Richland Report	Lab Code: STLRL
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3/0/2007	9.13.20 AM				<b>.</b>	IL MICI	пап	iu Kepoi	L				ab code. Or Erie	1
FormNbr	r: R	FormatType:	FEAD <b>Vers</b>	i <b>on:</b> 05	Rpt N	l <b>br</b> : 34621		File Name:	n:\Reportdb\e	edd\FeadIV\Rad\W050	99.Edd, h:\Rep	ortdb\edd	d\FeadIV\Rad\34621.E	Edd
Lab Sample Id: 9JM74210	Client Id: B1LN43	Test User	Contract Nbr MW6-SBB-A1	<b>SAF N</b> k	Nbr: Ty		QC Moisture/ Type: Solids%*:		Distilled Sample Volume On Date:			D	lection Date: 2007 08:00	
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qua	I MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7026385	H-3	10028-17-8	3.08E+02	pCi/L	1.3E+02	1.5E+02		2.96E+02	100.0	906.0_H3_LSC	5.00E-03	L	02/04/2007 01:59	) [
7026400	I-129L	15046-84-1	-7.19E-02	pCi/L	1.6E-01	1.6E-01	U	2.82E-01	97.0	I129LL_SEP_LEPS	3.8244E+00	L	02/21/2007 18:16	i l
7026396	TC-99	14133-76-7	6.44E-01	pCi/L	4.0E+00	5.6E+00	U	9.60E+00	100.0	TC99_ETVDSK_LS	1.257E-01	L	02/03/2007 15:12	<u>:</u> 1
7026383	Uranium	7440-61-1	9.65E-04	ug/L	7.8E-04	7.8E-04	U	8.22E-02		UTOT_KPA	2.55E-02	ML	02/28/2007 14:38	; I
Lab Sample Id: 9JM74E10	Client Id: B1LN38	Test User	Contract Nbr MW6-SBB-A1	SAF Nt	or Sdg Nbr: W05099			Moisture/ Solids%*:	Distilled Volume	Sample On Date:		0	lection Date: 2007 10:44	
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qua	I MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7026385	H-3	10028-17-8	1.70E+03	pCi/L		2.1E+02		2.93E+02		906.0 H3_LSC	5.00E-03	L	02/03/2007 23:15	
7026400	I-129L	15046-84-1	1.12E-01	pCi/L	1.5E-01	1.5E-01	U	2.96E-01	97.8	I129LL_SEP_LEPS	3.9099E+00	L	02/21/2007 16:29	)
7026396	TC-99	14133-76-7	1.12E+02	pCi/L	7.0E+00	1.3E+01		9.64E+00	100.0	TC99_ETVDSK_LS	1.25E-01	L	02/03/2007 15:12	2 1
Lab Sample Id: 9JM7NK10		Test User	Contract Nbr MW6-SBB-A1	<b>SAF NI</b> W07-012	Nbr:	Тур		Moisture/ Solids%*:	Distilled Volume	Sample On Date:		0	lection Date: 2007 10:06	THE STATE OF THE S
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qua	I MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7026396	TC-99	14133-76-7	1.34E+02	pCi/L	7.4E+00	1.5E+01		9.68E+00	100.0	TC99_ETVDSK_LS	1.253E-01	L	02/03/2007 15:12	2
Lab Sample Id:		Test User	Contract Nbr	SAF NI	Nbr:	Тур		Moisture/ Solids%*:	Distilled Volume	Sample On Date:			lection Date: 2007 13:25	
9JM7PP10		0.40"	MW6-SBB-A1		W0509		O		TueVield	8.6.a.klp. a. al	Alm Cima			A - 1
<b>Batch</b> 7026384	Analyte SR-90	<b>CAS</b> # 10098-97-2	<b>Result</b> 6.74E-02	<b>Unit</b> pCi/L	CntU 2S 2.0E-01	TotU 2S 2.0E-01	Qua U	I MDA 4.26E-01	TrcYield 82.2	Method SRISO_SEP_PRE	Alq Size 1.0006E+00	Unit L	Analy Date/Time 02/11/2007 09:25	Act

STL Richland

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.

J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).

B Qual- Analyte was found in the associated laboratory blank above the MDC.

# STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05099.Edd, h:\Reportdb\edd\FeadIV\Rad\34621.Edd

Lab Sample Id:

JNG061AB

Sdg/Rept Nbr: W05099

34621

Collection Date: 01/22/2007 13:25

Client Id:

SAF Nbr

NA

Matrix:

WATER

WATER

Sample On Date:

01/22/2007

Moisture/Solids%\*:

QC Type:

**BLK** 

Received Date:

ΑZ Н

R

Contract Nbr MW6-SBB-A19981 Case Nbr

Qu-

al

SAS Nbr

Suffix

Decant **Distilled Volume** 

File Id

FSuffix RTyp

Batch # / Qc Type

BLK

Analyt/ CAS#

Result/ **Orig Rst** 4.49E-01

Tot/Cnt Unit Uncert 2S

**Test User** 

Tracer MDC Yield 6.09E+00 100.0

Spk Conc/ %Rec

Analy Method

Aliq Size/ TC99 ETVDSK 2.021E-01

Analyzed 02/03/2007

Date/Time

RPD/ RER/ UCL UCL

LCS LCL/UCL Typ

7026396 TC-99 14133-76-7

pCi/L 3.5E+00 2.5E+00

15:12

D

Lab Code: STLRL Thursday, March 08, 2007 STL Richland QC Blank Report

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W05099.Edd, h:\Reportdb\edd\FeadIV\Rad\34621.Edd

Suffix

Decant

**Distilled Volume** 

File Id

Lab Sample Id: Sdg/Rept Nbr: W05099 JNG081AB 34621 Collection Date: 01/22/2007 13:25

**WATER** Client Id: NA Matrix: WATER Sample On Date:

SAS Nbr

98.1

Moisture/Solids%\*: QC Type: **BLK** Received Date: 01/22/2007

MW6-SBB-A19981 BB Н Spk Conc/ Aliq Date/Time LCS R Batch # / Analyt/ Result/ Tot/Cnt Qu-Tracer Analy RPD/ RER/ LCL/UCL Typ MDC Yield %Rec Method UCL UCL Qc Type CAS# Orig Rst Unit Uncert 2S al Size/ Analyzed

I-129L -5.70E-02 pCi/L 1.3E-01 2.32E-01 I129LL\_SEP\_L 3.9978E+00 02/21/2007 7026400 1.3E-01 18:22 15046-84-1 BLK

Case Nbr

SAF Nbr

**Contract Nbr** 

Test User

FSuffix RTyp

D

Thursday, March 08, 2007 STL Richland QC Blank Report Lab Code: STLRL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\V\Rad\W05099.Edd, h:\Reportdb\edd\Fead\V\Rad\34621.Edd

**Lab Sample Id:** JNG091AB **Sdg/Rept Nbr:** W05099 34621 **Collection Date:** 01/19/2007 09:09

Client Id: NA Matrix: WATER WATER Sample On Date:

Moisture/Solids%\*: QC Type: BLK Received Date: 01/19/2007

SAF Nbr Contract Nbr Test User Case Nbr SAS Nbr Suffix Decant Distilled Volume File Id FSuffix RTyp

MW6-SBB-A19981

BD H

Spk Conc/ Analy Date/Time RER/ LCS R Batch # / Analyt/ Result/ Tot/Cnt Qu-Tracer Aliq RPD/ LCL/UCL Typ CAS# MDC Yield %Rec Method Size/ Analyzed UCL UCL Qc Type Orig Rst Unit Uncert 2S al D 7026401 ALPHA -1.39E-01 pCi/L 2.3E-01 U 7.39E-01 100.0 9310 ALPHAB 2.028E-01 02/13/2007

**BLK** 12587-46-1 2.3E-01 L 15:05

3

Thursday, March 08, 2007 STL Richland QC Blank Report

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W05099.Edd, h:\Reportdb\edd\FeadIV\Rad\\034621.Edd

**Lab Sample Id:** JNG0E1AB **Sdg/Rept Nbr:** W05099 34621 **Collection Date:** 01/22/2007 12:05

Client Id: NA Matrix: WATER WATER Sample On Date:

Moisture/Solids%\*: QC Type: BLK Received Date: 01/22/2007

SAF Nbr **Contract Nbr Test User** Case Nbr SAS Nbr Suffix **Distilled Volume** Decant File Id FSuffix RTyp MW6-SBB-A19981 BF Н Batch # / Analyt/ Result/ Tot/Cnt Qu-Tracer Spk Conc/ Analy Aliq Date/Time RPD/ RER/ LCS R Qc Type CAS# Orig Rst Unit Uncert 2S MDC Yield %Rec Method al Size/ Analyzed UCL UCL LCL/UCL Typ 7026385 H-3 5.68E+01 pCi/L 1.4E+02 2.94E+02 100.0 906.0 H3 LSC 5.00E-03 02/03/2007 D

**BLK** 10028-17-8 1.2E+02 L 15:05

Lab Code: STLRL

### STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05099.Edd, h:\Reportdb\edd\FeadIV\Rad\34621.Edd

Lab Sample Id:

JNG0E1DX

Sdg/Rept Nbr: W05099

34621

**Collection Date:** 01/22/2007 12:05

Client Id:

NA

Matrix:

**WATER** 

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type:

BLK

Received Date:

01/22/2007

SAF	Nbr Co	Contract Nbr		est User	Case	Nbr S	AS Nbr	Suffix	Decant	Distilled Volume	File	File Id		FSuffix RTyp		
	MW6	S-SBB-A19981												ВН	Н	
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R - Typ	
7026385	H-3	1.01E+02	pCi/L	1.4E+02	U	2.98E+02	100.0		906.0_H3_LS0	C 5.00E-03	02/03/2007				D	
BLK	10028-17-8			1.3E+02						L	17:49					

### STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\V\05099.Edd, h:\Reportdb\edd\FeadIV\Rad\34621.Edd

Lab Sample Id:

JNG1A1AB

Sdg/Rept Nbr: W05099

34621

**Collection Date:** 01/19/2007 09:09

Client Id:

NA

Matrix:

WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type:

**BLK** 

Received Date: 01/19/2007

SAF Nbr

7026402 BETA

Batch # /

Qc Type

Contract Nbr

Test User

Case Nbr

SAS Nbr

Suffix

**Distilled Volume** Decant

File Id

FSuffix RTyp BJ

Н

R

MW6-SBB-A19981

Analyt/ Result/ CAS# Orig Rst 3.40E+00

Tot/Cnt Unit Uncert 2S pCi/L 1.5E+00

Qual MDC 2.49E+00 100.0

Tracer Spk Conc/ Yield %Rec

Analy Method

Aliq Size/ 9310 ALPHAB 2.003E-01

Analyzed 02/13/2007 RPD/ RER/ UCL UCL

LCS LCL/UCL Typ

D

BLK 12587-47-2

1.4E+00

14:56

Date/Time

Lab Code: STLRL Thursday, March 08, 2007 STL Richland QC Blank Report FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W05099.Edd, h:\Reportdb\edd\FeadIV\Rad\34621.Edd Lab Sample Id: Sdg/Rept Nbr: W05099 JNGX31AB 34621 Collection Date: 01/22/2007 12:53 **WATER** WATER Sample On Date: Client Id: NA Matrix: Moisture/Solids%\*: QC Type: **BLK Received Date:** 01/22/2007 FSuffix RTyp SAF Nbr Contract Nbr Test User Case Nbr SAS Nbr Suffix Decant **Distilled Volume** File Id MW6-SBB-A19981 BL Н LCS Analyt/ Result/ Tot/Cnt Qu-Tracer Spk Conc/ Analy Aliq Date/Time RPD/ RER/ R Batch # / Yield Method Size/ UCL LCL/UCL Typ CAS# **Orig Rst** MDC %Rec UCL

SRISO\_SEP\_P

Qc Type

7026384

BLK

SR-90

10098-97-2

Unit

pCi/L 1.9E-01

4.89E-02

Uncert 2S

1.9E-01

al

4.18E-01

77.8

D

Analyzed

09:20

1.0004E+00 02/11/2007

### STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

Moisture/Solids%\*:

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05099.Edd, h:\Reportdb\edd\FeadIV\Rad\V34621.Edd

Lab Sample Id:

JNGXV1AB

Sdg/Rept Nbr: W05099

34621

**Collection Date:** 01/22/2007 11:39

Client Id:

NA

Matrix:

WATER

WATER

Sample On Date: Received Date:

01/22/2007

SAF Nbr

**Contract Nbr** 

QC Type:

**BLK** 

Suffix

Decant

**Distilled Volume** 

File Id

MW6-SBB-A19981

Test User

SAS Nbr Case Nbr

Aliq

Date/Time

BN

RER/

UCL

Н

R

FSuffix RTyp

Batch # / Qc Type 7026383

BLK

Analyt/ CAS# Uranium 7440-61-1

Result/ Orig Rst 2.30E-03

Tot/Cnt Unit Uncert 2S 6.6E-04 ug/L 6.6E-04

Qu-U

MDC al 8.25E-02 Tracer Yield

Spk Conc/ %Rec

Analy Method UTOT\_KPA

Size/ 2.54E-02

Analyzed 02/28/2007 RPD/ UCL

LCS LCL/UCL Typ

D

ML

14:16

# STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05099.Edd, h:\Reportdb\edd\FeadIV\Rad\V34621.Edd

Lab Sample Id:

Moisture/Solids%\*:

JNG061CS

Sdg/Rept Nbr: W05099

34621

Collection Date: 01/22/2007 13:25

Client Id:

NA

Matrix:

Case Nbr

WATER

WATER

Sample On Date:

01/22/2007 Received Date:

Date/Time

SAF Nbr

Contract Nbr MW6-SBB-A19981 **Test User** 

QC Type: BS

SAS Nbr

Suffix

Decant **Distilled Volume**  File Id FSuffix RTyp

Batch # / Qc Type

BS

Analyt/ CAS# 7026396 TC-99

14133-76-7

Result/ **Orig Rst** 3.25E+02

Tot/Cnt Uncert 2S Unit pCi/L 2.5E+01 8.1E+00

Qu-MDC al 6.00E+00 100.0

Tracer Yield

Spk Conc/ %Rec 3.31E+02 98.0

Analy Aliq Method TC99 ETVDSK 2.017E-01

Size/ Analyzed 02/03/2007 15:12

LCS RPD/ RER/ UCL UCL LCL/UCL Typ 70

130

BA

Н

D

R

### STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

CAS#

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05099.Edd, h:\Reportdb\edd\FeadIV\Rad\34621.Edd

Lab Sample Id:

JNG081CS

Sdg/Rept Nbr: W05099

34621

Collection Date: 01/22/2007 13:25

Client Id:

NA

Matrix:

**WATER** 

BS

WATER

Sample On Date:

Date/Time

Moisture/Solids%\*:

QC Type:

Received Date:

01/22/2007

SAF Nbr

Contract Nbr MW6-SBB-A19981 **Test User** Case Nbr

SAS Nbr

Suffix

Decant

**Distilled Volume** 

Aliq

File Id

FSuffix RTyp BC Н

Batch # / Qc Type

Analyt/ Result/ **Orig Rst** 7.52E+00

Tot/Cnt Unit Uncert 2S pCi/L 1.0E+00

Qu-MDC al 3.74E-01

Tracer Yield 97.6

Spk Conc/ %Rec 9.96E+00

Analy Method 1129LL SEP L

Size/ Analyzed 3.8701E+00 02/21/2007 RPD/ RER/ LCS UCL UCL

LCL/UCL Typ 70 D

R

7026400 I-129L BS 15046-84-1

1.0E+00

75.5

18:22

130

STL Richland

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide. J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).

B Qual- Analyte was found in the associated laboratory blank above the MDC.

### STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05099.Edd, h:\Reportdb\edd\FeadIV\Rad\34621.Edd

Lab Sample Id:

JNG091CS

Sdg/Rept Nbr: W05099

34621

Collection Date: 01/19/2007 09:09

Client Id:

NA

Matrix:

WATER

WATER

Sample On Date:

01/19/2007

Moisture/Solids%\*:

QC Type:

BS

Received Date:

SAF Nbr

Contract Nbr MW6-SBB-A19981 Case Nbr

SAS Nbr

Suffix

Decant **Distilled Volume**  File Id

FSuffix RTyp ΒE

Н

R

Batch # / Qc Type

Analyt/ Result/ CAS# **Orig Rst** ALPHA 2.00E+01

Tot/Cnt Unit Uncert 2S pCi/L 5.0E+00

Qu-MDC 6.14E-01

Tracer Yield 100.0

Spk Conc/ %Rec 2.20E+01

Analy Method 9310\_ALPHAB

Aliq Size/ 2.05E-01

Date/Time RPD/ Analyzed UCL 02/13/2007

LCS RER/ LCL/UCL Typ UCL

70 D

7026401 12587-46-1 BS

2.0E+00

**Test User** 

90.7

L 15:05

130

# STL Richland QC Control Sample Report

Lab Code: STLRL

130

FormNbr: R

FormatType: FEAD

2.0E+02

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05099.Edd, h:\Reportdb\edd\FeadIV\Rad\34621.Edd

Lab Sample Id:

JNG0E1CS

Sdg/Rept Nbr: W05099

34621

Collection Date: 01/22/2007 12:05

16:27

Client Id:

NA

Matrix:

WATER

WATER

Sample On Date:

Moisture/Solids%\*:

10028-17-8

BS

QC Type: BS

Received Date:

01/22/2007

SAF		Contract Nbr MW6-SBB-A19981		Test User Case Nbr		Nbr SA	AS Nbr	Suffix	Decant E	Distilled Volume	File		<b>FSuffix RTyp</b> BG H		
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UC	R L Typ
7026385	H-3	2.63E+03	pCi/L	2.5E+02		2.94E+02	100.0	2.71E+03	906.0_H3_LSC	5.00E-03	02/03/2007			70	D

96.9

### STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\VW05099.Edd, h:\Reportdb\edd\FeadIV\Rad\VA621.Edd

Lab Sample Id:

JNG0E1EM

Sdg/Rept Nbr: W05099

34621

Collection Date: 01/22/2007 12:05

Client Id:

NA

Matrix:

**WATER** 

WATER

Sample On Date:

Moisture/Solids%\*:

Analyt/

QC Type:

Received Date: 01/22/2007

SAF Nbr

Contract Nbr MW6-SBB-A19981 Test User Case Nbr BS

SAS Nbr

Suffix

**Distilled Volume** 

File Id

FSuffix RTyp ВΙ

Н

D

R

Qu-

Tracer Yield

Spk Conc/ %Rec

Analy Method

Aliq Size/

Date/Time Analyzed 02/03/2007 RPD/ RER/ UCL UCL

LCS

Batch # / Qc Type 7026385 H-3 BS

CAS# 10028-17-8

Orig Rst 2.46E+03

Result/

Unit Uncert 2S pCi/L 2.4E+02 2.0E+02

Tot/Cnt

MDC 2.97E+02 100.0

2.71E+03 90.9

906.0 H3 LSC

Decant

5.00E-03 L

19:10

LCL/UCL Typ 70

130

### STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05099.Edd, h:\Reportdb\edd\FeadIV\Rad\34621.Edd

Lab Sample Id:

JNG1A1CS

Sdg/Rept Nbr: W05099

34621

**Collection Date:** 01/19/2007 09:09

Client Id:

NA

Matrix:

WATER

BS

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type:

Received Date:

01/19/2007

SAF		Contract Nbr MW6-SBB-A19981		Test User		Case Nbr SA		Suffix	Decant Distilled Volum		e File Id		FSuffix RTyp BK H		
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/U	R CL Typ
7026402	BETA	2.23E+01	pCi/L	3.7E+00		2.53E+00	100.0	2.24E+01	9310_ALPHAE	3 2.002E-01	02/13/2007			70	D
BS	12587-47-2			2.4E+00				99.4		L	14:56			130	

# STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05099.Edd, h:\Reportdb\edd\FeadIV\Rad\34621,Edd

Lab Sample Id:

JNGX31CS

Sdq/Rept Nbr: W05099

34621

**Collection Date:** 01/22/2007 12:53

Client Id:

NA

Matrix:

**WATER** 

WATER

Sample On Date: **Received Date:** 

01/22/2007

Moisture/Solids%\*:

QC Type:

BS

Decant

**Distilled Volume** 

Aliq

File Id

FSuffix RTyp

SAF Nbr

Contract Nbr MW6-SBB-A19981

Case Nbr

SAS Nbr

Suffix

ВМ Н

R

Batch # / Qc Type 7026384

BS

Analyt/ CAS# SR-90 10098-97-2

Result/ **Orig Rst** 1.41E+01

Tot/Cnt Unit Uncert 2S pCi/L 2.2E+00 8.6E-01

Test User

Qual MDC 4.75E-01

Tracer Yield 70.2

Spk Conc/ %Rec 1.35E+01 104.5

Analy Method SRISO SEP P

Size/ 9.992E-01

Analyzed 02/11/2007 09:20

Date/Time

RPD/ RER/ UCL UCL

LCS LCL/UCL Typ

70 D 130

STL Richland

rptFeadRadEdd v3.68

# STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\V\05099.Edd, h:\Reportdb\edd\FeadIV\Rad\V\Rad\V\Ad\34621.Edd

Lab Sample Id:

JNGXV1CS

Sdg/Rept Nbr: W05099

34621

Collection Date: 01/22/2007 11:39

RER/

Client Id:

NA

Matrix:

**WATER** 

**WATER** 

Sample On Date:

Moisture/Solids%\*:

QC Type:

BS

**Received Date:** 

01/22/2007

SAF Nbr

Contract Nbr MW6-SBB-A19981 Case Nbr

SAS Nbr

Suffix

Decant

**Distilled Volume** 

File Id

FSuffix RTyp ВО

LCS

Н

D

R

Batch # /

Qc Type

7026383

Analyt/ CAS# Uranium

Result/ Orig Rst 3.35E+01

Tot/Cnt Unit Uncert 2S ug/L 4.1E+00

Test User

Qual MDC 8.32E-02

Tracer Yield

Spk Conc/ %Rec 3.54E+01

Analy Method UTOT KPA

Aliq Size/ 2.52E-02

Analyzed 02/28/2007 14:29

Date/Time RPD/ UCL

UCL LCL/UCL Typ 70

BS

7440-61-1

4.1E+00

94.6

ML

130

### STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05099.Edd, h:\Reportdb\edd\FeadIV\Rad\34621.Edd

Lab Sample Id:

JNGXV1DS

Sdg/Rept Nbr: W05099

34621

Collection Date: 01/22/2007 11:39

Client Id:

NA

Matrix:

**WATER** 

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type:

BS

Received Date:

01/22/2007

SAF Nbr

Contract Nbr MW6-SBB-A19981 **Test User** Case Nbr

SAS Nbr

Suffix

Decant

**Distilled Volume** 

File Id

FSuffix RTyp BP

Н

R

Batch # / Qc Type

7026383

Analyt/ CAS# Uranium

Result/ Orig Rst 3.69E+00

Tot/Cnt **Uncert 2S** Unit ug/L 3.8E-01

Qu-MDC al 8.28E-02 Tracer Yield

Spk Conc/ %Rec 3.58E+00

Analy Method UTOT\_KPA

Aliq Size/ 2.53E-02

Analyzed 02/28/2007

Date/Time

RPD/ RER/ UCL UCL

LCS LCL/UCL Typ 70 D

BS 7440-61-1 130

103.0

14:31

### STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05099.Edd, h:\Reportdb\edd\FeadIV\Rad\34621.Edd

Lab Sample Id:

JM6JQ1FR

Sdg/Rept Nbr: W05099

34621

Collection Date: 01/19/2007 09:09

Client Id:

SAF Nbr

W07-012

B1LJF6

Contract Nbr

MW6-SBB-A19981

Matrix:

Case Nbr

al

WATER

**WATER** 

Sample On Date: Received Date:

01/19/2007

Moisture/Solids%\*:

QC Type:

DUP

Decant

**Distilled Volume** 

File Id

RPD/

FSuffix RTyp AQ Н

R

D

Batch # / Qc Type 7026402 BETA

DUP

Analyt/ CAS# 12587-47-2

Result/ **Orig Rst** 1.06E+04 1.07E+04

Tot/Cnt Unit Uncert 2S pCi/L 1.3E+03 6.1E+01

**Test User** 

Qu-Tracer MDC Yield 4.75E+00 100.0

SAS Nbr

Spk Conc/ %Rec

Suffix

Analy Method 9310\_ALPHAB

Aliq Size/ 1.251E-01

Date/Time Analyzed 02/13/2007

RER/ UCL UCL 8. 0.1

LCS LCL/UCL Typ

14:56 20.0 3 Thursday, March 08, 2007 STL Richland QC Duplicate Report Lab Code: STLRL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W05099.Edd, h:\Reportdb\edd\W05099.Edd, h:\Reportdb\edd

**Lab Sample Id:** JM6JQ2ER **Sdg/Rept Nbr:** W05099 34621 **Collection Date:** 01/19/2007 09:09

Client Id: B1LJF6 Matrix: WATER WATER Sample On Date:

Moisture/Solids%\*: QC Type: DUP Received Date: 01/19/2007

SAF Nbr Co		Contract Nbr		Test User		Nbr S	SAS Nbr	Suffix	Decant Di	Distilled Volume	File Id		FSuffix RTyp		
W07-0	12 MW6	6-SBB-A19981												AR I	Н
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7026401	ALPHA	6.79E+00	pCi/L	2.7E+00		2.27E+0	0 100.0		9310_ALPHAE	3 1.134E-01	02/14/2007	36.3	1.1	ſ	D
DUP	12587-46-1	4.70E+00		2.2E+00						1	11:53	20.0	3		

19

# STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

Moisture/Solids%\*:

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05099.Edd, h:\Reportdb\edd\FeadIV\Rad\V\\Rad\V\\Rad\V\Rad\V\Rad\V\Rad\V\Rad\V\Rad\V\Rad\V\Rad\V\Rad\V\Rad\V\Rad

Lab Sample Id:

JM71V1CR

Sdg/Rept Nbr: W05099

34621

**Collection Date:** 01/22/2007 12:53

Client Id:

B1LNM1

Matrix:

**WATER** 

WATER

Sample On Date:

Received Date: 01/22/2007

Date/Time

SAF Nbr

Contract Nbr

QC Type:

DUP

S07-001

MW6-SBB-A19981

Case Nbr SAS Nbr Suffix

Decant

Distilled Volume

File Id

FSuffix RTyp AS Н

R

D

Batch # / Qc Type 7026384

DUP

Analyt/ CAS# SR-90 10098-97-2

Result/ Orig Rst 1.40E+01 1.50E+01

Tot/Cnt Unit Uncert 2S pCi/L 2.2E+00 7.7E-01

Test User

Qu-MDC al 3.62E-01 86.2

Tracer Spk Conc/ Yield %Rec

Analy Method

SRISO\_SEP\_P

Aliq Size/

Analyzed 1.0074E+00 02/11/2007 UCL UCL 6.6 0.6

RER/

LCS LCL/UCL Typ

09:20 20.0 3

RPD/

### STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

Moisture/Solids%\*:

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05099.Edd, h:\Reportdb\edd\FeadIV\Rad\34621.Edd

Lab Sample Id:

JM7311ER

Sdg/Rept Nbr: W05099

34621

**Collection Date:** 01/22/2007 13:25

Client Id:

**B1LN27** 

Matrix: QC Type: WATER

WATER

Sample On Date:

Received Date:

01/22/2007

SAF Nbr

Contract Nbr

Case Nbr

DUP

SAS Nbr

Suffix

Decant

**Distilled Volume** 

File Id

FSuffix RTyp ΑU

Н

R

A07-001

MW6-SBB-A19981

Tot/Cnt Uncert 2S

Qual MDC Tracer Spk Conc/ Yield %Rec

Analy Method

Aliq Date/Time Size/ Analyzed

RPD/ UCL 0.0

LCS RER/ LCL/UCL Typ

Batch # / Qc Type 7026400 DUP

Analyt/ CAS# 1-129L 15046-84-1

Result/ Orig Rst 4.69E-03 -6.85E-02

1.4E-01 pCi/L 1.4E-01

Unit

Test User

2.62E-01 94.9 U

1129LL SEP L 3.9024E+00 02/21/2007

3 14:39 20.0

UCL 0.7

D

FormNbr: R

### STL Richland QC Duplicate Report

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05099.Edd, h:\Reportdb\edd\FeadIV\Rad\V4621.Edd

Lab Sample Id:

JM7381ER

Sdq/Rept Nbr: W05099

34621

**Collection Date:** 01/22/2007 12:05

RER/

Lab Code: STLRL

Client Id:

**B1LN35** 

Matrix:

MDC

WATER

WATER

Sample On Date:

01/22/2007

Moisture/Solids%\*:

QC Type:

DUP

**Received Date:** 

FSuffix RTyp

R

D

SAF Nbr A07-001

Contract Nbr MW6-SBB-A19981 Case Nbr

SAS Nbr

Suffix

Decant

**Distilled Volume** 

File Id

ΑV Н

Batch # / Qc Type 7026385 H-3

DUP

Analyt/ Result/ CAS# Orig Rst 1.21E+03 10028-17-8

1.36E+03

Tot/Cnt Unit Uncert 2S pCi/L 1.9E+02 1.6E+02

**Test User** 

Qual

Yield 2.93E+02 100.0

Tracer

Spk Conc/ %Rec

Analy Method 906.0 H3 LSC

Aliq Size/ 5.00E-03

L

Date/Time Analyzed 02/03/2007 21:54

UCL UCL 1.1 11.9

RPD/

LCS LCL/UCL Typ

3 20.0

### STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05099.Edd, h:\Reportdb\edd\FeadIV\Rad\34621.Edd

Lab Sample Id:

JM7381FR

Sdg/Rept Nbr: W05099

34621

Collection Date: 01/22/2007 12:05

Client Id:

**B1LN35** 

Matrix:

WATER

Sample On Date:

Moisture/Solids%\*:

Analyt/

QC Type:

DUP

**WATER** 

Received Date:

01/22/2007

SAF Nbr

**Contract Nbr** 

Case Nbr

Suffix

Decant

Distilled Volume File Id

FSuffix RTyp AW Н

A07-001

MW6-SBB-A19981

Result/

SAS Nbr

Tracer

Spk Conc/ %Rec

Analy Method

Aliq Size/

Date/Time Analyzed 02/03/2007

RPD/ RER/ UCL UCL 0.7

LCS

R

D

Qc Type 7026396 TC-99 DUP

Batch # /

CAS# Orig Rst 1.33E+02 14133-76-7 1.40E+02

Unit Uncert 2S pCi/L 1.5E+01 7.4E+00

Tot/Cnt

**Test User** 

Qu-

MDC Yield 9.70E+00 100.0

TC99 ETVDSK 1.249E-01 L

15:12

5.2

LCL/UCL Typ

20.0 3

STL Richland

Thursday, March 08, 2007 STL Richland QC Duplicate Report Lab Code: STLRL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W05099.Edd, h:\Reportdb\edd\FeadIV\Rad\34621.Edd

**Lab Sample Id:** JM7421FR **Sdg/Rept Nbr:** W05099 34621 **Collection Date:** 01/22/2007 08:00

Client Id: B1LN43 Matrix: WATER WATER Sample On Date:

Moisture/Solids%\*: QC Type: DUP Received Date: 01/22/2007

SAF Nbr         Contract Nbr           A07-001         MW6-SBB-A19981		Т	Test User Case Nbr		Nbr S	SAS Nbr Suffix		Decant	Distilled Volume	File Id		FSuffix RTyp AY H			
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCI	R _ Typ
7026383	Uranium	1.98E-02	ug/L	2.2E-03	U	7.68E-02	2		UTOT_KPA	2.73E-02	02/28/2007	181.5	12.1		D
DUP	7440-61-1	9.65E-04	_	2.2E-03						ML	15:46	20.0	3		

# STL Richland Qc Matrix Spike Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05099.Edd, h:\Reportdb\edd\FeadIV\Rad\34621.Edd

Lab Sample Id:

JM7311DW

Sdg/Rept Nbr: W05099

34621

Collection Date: 01/22/2007 13:25

Client Id:

**B1LN27** 

Matrix:

WATER

MS

**WATER** 

Sample On Date:

Moisture/Solids%\*:

14133-76-7

QC Type:

Received Date:

01/22/2007

SAF Nbr A07-001

7026396 TC-99

**Contract Nbr** MW6-SBB-A19981 Case Nbr

SAS Nbr

Suffix Decant

**Distilled Volume** 

File Id

FSuffix RTyp AT Н

Batch # / Analyt/ CAS# Qc Type

MS

Result/ Orig Rst 3.38E+03

Tot/Cnt **Uncert 2S** Unit pCi/L 2.5E+02 3.2E+01

Test User

Qu-MDC al 9.55E+00 100.0

Tracer Spk Conc/ Yield %Rec 3.57E+03 94.5

Analy Aliq Method Size/ TC99\_ETVDSK 1.267E-01

Date/Time Analyzed 02/03/2007 15:12

RPD/ RER/ UCL UCL

LCL/UCL Typ 60 D 140

LCS

R

Thursday, March 08, 2007

### STL Richland Oc Matrix Spike Report

Lab Code: STLRL

FormNbr: R

Moisture/Solids%\*:

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05099.Edd, h:\Reportdb\edd\FeadIV\Rad\VA621.Edd

Lab Sample Id:

JM7401FW

Sdg/Rept Nbr: W05099

34621

Collection Date: 01/22/2007 11:39

Client Id:

B1LN42

Matrix:

QC Type:

WATER

MS

WATER

Sample On Date:

**Received Date:** 01/22/2007

SAF Nbr

**Contract Nbr** 

Test User Case Nbr

Tot/Cnt

SAS Nbr

Suffix

Decant

**Distilled Volume** 

File Id

FSuffix RTvp ΑX

Н

R

A07-001

MW6-SBB-A19981

Qu-

Tracer

Yield

Spk Conc/ %Rec

Analy Method

Aliq Size/ Date/Time Analyzed

RPD/ RER/ UCL

LCS

Batch # / Analyt/ CAS# Qc Type 7026383 Uranium MS 7440-61-1

Result/ **Orig Rst** 3.49E+01

Uncert 2S Unit 7.3E+00 7.3E+00

al MDC 8.45E-02

3.61E+01 96.7

UTOT KPA

2.48E-02 ML

02/28/2007 14:36

UCL

LCL/UCL Typ 60 D 140

rtblFeadIVWetHEdd 3/28/2007

Form	N Form	SRec	FormatTy	Versio	SampleNbr	Contract	LabCode	LabCCase(SAS	SDGNbr
W	AA	Н	FEAD	05	B1L6J0	MW6-SBB-A19981	STLRL		W05099
W	AB	Н	FEAD	05	B1L6D8	MW6-SBB-A19981	STLRL		W05099
W	AC	Н	FEAD	05	B1L6H6	MW6-SBB-A19981	STLRL		W05099
W	AD	Н	FEAD	05	B1L6J0 DUP	MW6-SBB-A19981	STLRL		W05099
W	ΑE	Н	FEAD	05	NA	MW6-SBB-A19981	STLRL		W05099
W	AF	Н	FEAD	05	NA	MW6-SBB-A19981	STLRL		W05099

rtblFeadIVWetHEdd 3/28/2007

AnalyticalMatrix	LabReceivedDate	CollectedDate	PercentSqDecante	LabSampleId	LabFileld	SafNbr
WATER	01/23/2007	01/23/2007		9JM8V010		
WATER	01/23/2007	01/23/2007	1	9JM8V210		
WATER	01/23/2007	01/23/2007		9JM8VH10		
WATER	01/23/2007	01/23/2007		JM8V01ER		
WATER	01/23/2007			JNGXQAB		
WATER	01/23/2007			JNGXQAC		

rtblFeadIVWetHEdd 3/28/2007

	CollectedTime	PercentM	Filename	SpecificMa
09:51			h:\Reportdb\edd\FeadIV\Wet\W0509	
09:01			h:\Reportdb\edd\FeadIV\Wet\W0509	
10:36	3		h:\Reportdb\edd\FeadIV\Wet\W0509	1,200.00
09:51			h:\Reportdb\edd\FeadIV\Wet\W0509	
			h:\Reportdb\edd\FeadIV\Wet\W0509	1
			h:\Reportdb\edd\FeadIV\Wet\W0509	1

FormNbr	FormSuffix	RecordType	CASNbr	Isotope	Result
W.	AA	ח	COLIFORM	COLIFORM	+1.00F+00
W	AB	.Π	COLIFORM	COLIFORM	+1.00F+00
M	AC	.D	COLIEORM	COLLEGRM	+1.00E+00
M	AD	D	COLIFORM	COLIFORM	+1.00F+00
W.,	AE	D	COLIFORM	COLIFORM	+1.00F+00
\\\	AF	D	COLIFORM	COLIEORM	+1.35F+01

OrigResult	ConcentrationUr	ActionCode	AnalysisMethod	SampleAliquotS	SampleAliquotU
	Col/100ml   1		9223 COLIFO	+1.00F+02	ML
	Cal/100ml 1		9223 COLIFO	+1 00F+02	MI
	Col/100ml		9223 COLIEO	+1.00F+02	ML
	Col/100ml L		9223 COLIFO	+1.00F+02	ML
	Col/100ml		9223 COLIEO	+1.00E+02	:ML
	Col/100ml L		9223 COLIEO	+1.00F+02	ML

LabQualifier	DilutionFactor	DateAnalyzed	TimeAnalyzed	BatchNbr	QcType
	1	01/23/2007	14:33	7026382	
	1	01/23/2007	14:33	7026382	
	1	01/23/2007	14:33	7026382	
[L]	1	01/23/2007	14:35	7026382	DUP
[LJ	1	01/23/2007	14:36	7026382	BLK
	1	01/23/2007	14:36	7026382	BS

### rtblFeadIVWetDEdd

SpikeConc	PercentRecover	Rpd	RpdMaximum	Rpd_UCL	LCSMS_LCL
		THE THE STATE OF T		***************************************	
		wa w	W = XX		<u> </u>
	79 - 1 - 1				
Q0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	in against a a a		The second second of the second secon	>	CONTROLLER AND LANGUAGE SHARE BROKEN SEPTIME TO AND
			a light and state and man which have all the	age and in colors, the stage and their transfer	

LCS_UCL	TracerYield	DetectionLimit	RL	RLType	CommentCode
		1.00F+00	1 00F+00	BDI	
		1 00F+00	1.00F+00	RDI	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
		1 00F+00	1.00F+00	RDI	- 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000
		1.00F+00	1.00F+00	RDL	Abilitation of materialisms are seen east only
	and the second second second	1_00F+00	1.00F+00	RDL	
		1.00F+00	1.00F+00	RDI	



# Data Review/Verification Checklist RADIOCHEMISTRY, First Level Review

2/14/2007 1:27:04 PM

Lot No., Due Date: J7A220134; 03/05/2007

Client, Site: 384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 7026401; RALPHA-A Alpha by GPC-Am

SDG, Matrix: W05099; WATER

SDG, N	Matrix:	W05099; WATER				
1	rection Calculation Protoc	ol Used.		Yes	No	N/A
ľ	e Appropriate Methods W	ere Used To Analyze the Samples		Yes	No	N/A
ı	nal Results Are in the App	ropriate Activity Units		Yes	No	N/A
	itch Contains the Require	d QC Appropriate for the Method		Yes	No	N/A
1	e Correct Tracer and QC	Vials Where Used in the Samples		Yes	No	N/A
Į.	mple was Appropriately T	raced Before or After Fractionating th	e Sample	Yeş	No	N/A
ł	Least the Minimum Samp			Yes	No	N/A
JM	alysis Volume => JM6JQ1AA 16JQ2AA 110.80<200.00 Q:	/B	The state of the s		V.	
ОК				Yes	No	N/A
ок		or the Minimum Count Time or CRDL	was Achieved.	Yes	No	N/A
8.09 Me OK	ethod Blank is within Cont :	rol Limits.		Yes	No	N/A
8.1 Com	nments:					
	atrix Blank is within Contro Matrix Blanks (MBlks) found			Yes	No	N/A
8.12 Me OK	, ,	it Value (No B Flag Necessary).		Yes	No	N/A
RPD	AS Specified Duplicate Eq D > UCL : 20.0=> JM6JQ1AE 16JQ2AE ALPHA 44.0 (RPD		New 10.09446	Yes	No/	N/A
	S within Control Limits.			Yes	No	N/A
8.15 ML	CS within Control Limits.  Matrix Spikes (MLCS) found	in Batch!		Yes	No	N/A
8.16 MS	S within Control Limits.  Matrix Spike Samples (MS) f	,		Yes	No	N/A
	acer within Control Limits.			Yes	No	N/A
8.18 Sai	mples are above Minimur	n Tracer Yield (No Failed Samples)		Yes	No	N/A
OK 8.19 Sai OK	mple Specific MDC <= Cf	RDL.		Yes	No	N/A
8.2 Com						
	sult < Lc, Activity Not Det Limit Specified!	ected, U Flag.		Yes	No	N/A
8.22 Res Bato JM6	sult < Mdc, Activity Not D ch Positive Result => JQ1AA ALPHA 4.3E+00 L:2	.1E+00		Yes	No	N/A
8.23 Res	I6JQ2AA ALPHA 4.7E+00 L: sult <= Action Level, whe ; No Action Level Found => /	n Defined.		Yes	No	N/A
	K; No Callin Level Found => sult + 3s >=0, Not Too N			Yes	No	N/A
STL Richla	and			Doco	1	
QAS_RAE	DCALCv4.8.26			Page	1	

8.25 Counting Spectrum  No FWHM found in Ba	are within FWHM Limits.	Yes	No	N/A
8.26 Instruments have C		Yes	No	N/A
8.27 Correct Count Libra		Yes	No	N/A
	No Count Library found in Batch Data! 8 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later version). 9 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later version.			N/A
8.29 Instrument Check \$	Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed	in later <b>Wes</b> ic	oi <b>neò</b> .	N/A
8.3 Comments:				
8.31 Results Blank Subt	racted as Appropriate.	Yes	No	N/A
		var en la companya en		
,				
		٨		
First Level Review	Pan anderson Date 2-14.0			

STL Richland



OC Batch Number: 70 26401 WO 5099			
wo.5099			
Review Item	Yes (√)	No (V)	TATIA (als)
A. Sample Analysis	103(1)	140.(4)	N/A (√)
1. Are the sample yields within acceptance criteria?			
2. Is the sample Minimum Detectable Activity < the Contract			
Detection Limit?			
3. Are the correct isotopes reported?			
B. QC Samples		-	
1. Is the Minimum Detectable Activity for the blank result ≤ the			1
Contract Detection Limit?			
2. Does the blank result meet the Contract criteria?			
3. Is the blank result < the Contract Detection Limit?		1	
4. Is the blank result > the Contract Detection Limit but the sample	l -		
result < the Contract Detection Limit?			
5. Is the LCS recovery with contract acceptance criteria?			
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection	<del>                                     </del>		
Limit?			
8. Do the MS/MSD results and yields meet acceptance criteria?			
9. Do the duplicate sample results and yields meet acceptance			
criteria?			
C. Other			
1. Are all Nonconformances included and noted?			
2. Are all required forms filled out?			
3. Was the correct methodology used?			
4. Was transcription checked?			
5. Were all calculations checked at a minimum frequency?		<del> </del>	
6. Were units checked?			
Comments on any "No" response: De 11 Cm			
·		,	
	* *		
Second Level Review Therry a Robern		Date: 6	Z-20 -07

### Clouseau Nonconformance Memo



NCM#: 10-09446

NCM Initiated By: Pam Anderson
Date Opened: 02/14/2007

Date Closed:

Classification: Anomaly

Status: GLREVIEW

Production Area: Environmental - Sep

Tests: Alpha by GPC-Am

Lot #'s (Sample #'s): J7A220134 (1),

QC Batches: 7026401

Nonconformance: Other (describe in detail)
Subcategory: Other (explanation required)

#### **Problem Description / Root Cause**

<u>Name</u>

<u>Date</u>

**Description** 

Pam Anderson 02/14/2007

7 The dupicate in this alpha in water batch was out. A recount brings the sample and

duplicate in agreement.

#### Corrective Action

<u>Name</u>

<u>Date</u>

**Corrective Action** 

Pam Anderson

02/14/2007

The sample and duplicate were recounted.

#### **Client Notification Summary**

Client

**Project Manager** 

Notified

Response How Notified

Note

Response

Response Note

### **Quality Assurance Verification**

Verified By

Due Date

Status

Notes

This section not yet completed by QA.

### **Approval History**

Date Approved

Approved By

Position

Date Printed: 2/14/2007

Page 1 of 1



## Data Review/Verification Checklist RADIOCHEMISTRY, First Level Review

2/14/2007 12:33:06 PM

Lot No., Due Date:

J7A220134; 03/05/2007

Client, Site:

384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 7026402; RBETA-SR Beta by GPC-Sr/Y

SDG, Matrix: W05099; WATER

TL Richland  MAS_RADCALCV4.8.26  WCM # 10-09445	Page	1	
.25 Counting Spectrum are within FWHM Limits.  No FWHM found in Batch Data!	Yes	No	N/A
OK; No Callin Level Found => BETA  .24 Result + 3s >=0, Not Too Negative. OK	Yeş	No	N/A
.23 Result <= Action Level, when Defined. OK; No Action Level Found => BETA	Yes	No	N/A
.22 Result < Mdc, Activity Not Detected, U Flag.  Batch Positive Result ⇒> JM6JQ1AC BETA 1.1E+04 L:5.0E+00	Yes	No	N/A
.21 Result < Lc, Activity Not Detected, U Flag.  No Limit Specified!	Yes	No	N/A
MDC/MDA > CRDL => JM6JQ1AC BETA 5.0E+00>4.0E+00     JM6JQ1AF BETA 4.8E+00>4.0E+00 Q:C1  .2 Comments:			
OK 3.19 Sample Specific MDC <= CRDL.	Yes	No	N/A
OK 3.18 Samples are above Minimum Tracer Yield (No Failed Samples)	Yes		
1.16 MS within Control Limits.  No Matrix Spike Samples (MS) found in Batch!  1.17 Tracer within Control Limits.	Yes		N/A N/A
No Matrix Spikes (MLCS) found in Batch!	Yes		V
OK	Yes	No	N/A
3.13 QAS Specified Duplicate Equation Value within Control Limits. OK (RPD)	Yeş	No	N/A
6.12 Method Blank(s) < QAS Limit Value (No B Flag Necessary).  OK	Yes	No	N/A
8.11 Matrix Blank is within Control Limits. No Matrix Blanks (MBlks) found in Batch!	Yes	No	N/A
OK 3.1 Comments:	M.	<u>.</u>	
OK 3.09 Method Blank is within Control Limits.	Yeş	No	N/A
OK 3.08 The Sample was Counted for the Minimum Count Time or CRDL was Achieved.		****************	N/A
Analysis Volume => JM6JQ1AC 125.10<200.00 Q:VB		V	N/A
3.05 Sample was Appropriately Traced Before or After Fractionating the Sample OK 3.06 At Least the Minimum Sample Volume Was Used	Yes Yes		
3.04 The Correct Tracer and QC Vials Where Used in the Samples OK OS Sample was Appreciately Traced Refere or After Fractionating the Sample	Yes		
3.03 Batch Contains the Required QC Appropriate for the Method  OK	Yes		
3.02 Final Results Are in the Appropriate Activity Units OK	Yeş	No	N/A
3.01 The Appropriate Methods Were Used To Analyze the Samples OK	Yes	No	N/A
3.0 Correction Calculation Protocol Used. OK	Yes	NO	IN/ <i>P</i>

3.26	Instruments have Current Calibrations.	Yes	No	N/A
	Correct Count Library Used.  No Count Library found in Batch Data!	Yes		<b>M</b> .:
	Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later version.			
8.29	Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later	v <b>Yéessi</b> o	nNeò.	N/A
8.3	Comments:			
8.31	Results Blank Subtracted as Appropriate. OK	Yes	No	N/A
Firs	it Level Review Pan Anderson Date 2-14-07			
STL F	Richland _RADCALCv4.8.26	Page	2	



OC Batch Number:	7026402	
· .	W05099	

A. Sample Analysis  1. Are the sample yields within acceptance criteria?  2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?  3. Are the correct isotopes reported?  B. QC Samples  1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?  2. Does the blank result meet the Contract criteria?  3. Is the blank result < the Contract Detection Limit?  4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?  5. Is the LCS recovery with contract acceptance criteria?  7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?  8. Do the MS/MSD results and yields meet acceptance criteria?  9. Do the duplicate sample results and yields meet acceptance criteria?  C. Other  1. Are all Nonconformances included and noted?  2. Are all required forms filled out?  3. Was the correct methodology used?  4. Was transcription checked?  5. Were all calculations checked at a minimum frequency?  6. Were units checked?  Comments on any "No" response:   Comments on any "No" response:	Yes (√)	$No(\sqrt{)}$	N/A (\(\frac{1}{2}\))
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?  3. Are the correct isotopes reported?  B. QC Samples  1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?  2. Does the blank result meet the Contract criteria?  3. Is the blank result < the Contract Detection Limit?  4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?  5. Is the LCS recovery with contract acceptance criteria?  7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?  8. Do the MS/MSD results and yields meet acceptance criteria?  9. Do the duplicate sample results and yields meet acceptance criteria?  C. Other  1. Are all Nonconformances included and noted?  2. Are all required forms filled out?  3. Was the correct methodology used?  4. Was transcription checked?  5. Were all calculations checked at a minimum frequency?  6. Were units checked?			- 2"21(1)
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<ul> <li>4. Is the blank result &gt; the Contract Detection Limit but the sample result &lt; the Contract Detection Limit?</li> <li>5. Is the LCS recovery with contract acceptance criteria?</li> <li>7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?</li> <li>8. Do the MS/MSD results and yields meet acceptance criteria?</li> <li>9. Do the duplicate sample results and yields meet acceptance criteria?</li> <li>C. Other</li> <li>1. Are all Nonconformances included and noted?</li> <li>2. Are all required forms filled out?</li> <li>3. Was the correct methodology used?</li> <li>4. Was transcription checked?</li> <li>5. Were all calculations checked at a minimum frequency?</li> <li>6. Were units checked?</li> </ul>		_	
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<ul> <li>7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?</li> <li>8. Do the MS/MSD results and yields meet acceptance criteria?</li> <li>9. Do the duplicate sample results and yields meet acceptance criteria?</li> <li>C. Other</li> <li>1. Are all Nonconformances included and noted?</li> <li>2. Are all required forms filled out?</li> <li>3. Was the correct methodology used?</li> <li>4. Was transcription checked?</li> <li>5. Were all calculations checked at a minimum frequency?</li> <li>6. Were units checked?</li> </ul>			
Limit?  8. Do the MS/MSD results and yields meet acceptance criteria?  9. Do the duplicate sample results and yields meet acceptance criteria?  C. Other  1. Are all Nonconformances included and noted?  2. Are all required forms filled out?  3. Was the correct methodology used?  4. Was transcription checked?  5. Were all calculations checked at a minimum frequency?  6. Were units checked?			
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C. Other  1. Are all Nonconformances included and noted?  2. Are all required forms filled out?  3. Was the correct methodology used?  4. Was transcription checked?  5. Were all calculations checked at a minimum frequency?  6. Were units checked?	- Art		
1. Are all Nonconformances included and noted? 2. Are all required forms filled out? 3. Was the correct methodology used? 4. Was transcription checked? 5. Were all calculations checked at a minimum frequency? 6. Were units checked?	3.4M		]
2. Are all required forms filled out? 3. Was the correct methodology used? 4. Was transcription checked? 5. Were all calculations checked at a minimum frequency? 6. Were units checked?			
3. Was the correct methodology used? 4. Was transcription checked? 5. Were all calculations checked at a minimum frequency? 6. Were units checked?			
4. Was transcription checked? 5. Were all calculations checked at a minimum frequency? 6. Were units checked?	4		
5. Were all calculations checked at a minimum frequency? 6. Were units checked?			
6. Were units checked?			
6. Were units checked?			
Comments on any "No" response: See MCan	_/_		
	ur.		
	***		

Second Level Review. Thereof a Claim. Date: Z-Z0-07

### Clouseau Nonconformance Memo



NCM #: 10-09445

NCM Initiated By: Pam Anderson Date Opened: 02/14/2007

Date Closed:

Classification: Anomaly

Status: GLREVIEW

Production Area: Environmental - Sep

Tests: Beta by GPC-Sr/Y

Lot #'s (Sample #'s): J7A220134 (1), J7A260000

(402),

QC Batches: 7026402

Nonconformance: Blank result above Contract Limit

Subcategory: Matrix effect

### Problem Description / Root Cause

Name Pam Anderson <u>Date</u>

Description

02/14/2007 The blank in this beta batch of water is above 1/2 CRDL but below CRDL. The

sample and duplicate in the batch have extremely high results, to the fouth power.

Data will be accepted.

#### Corrective Action

<u>Name</u>

<u>Date</u>

**Corrective Action** 

Pam Anderson

02/14/2007 None at this time.

#### **Client Notification Summary**

Client

**Project Manager** 

Notified

Response How Notified

Note

Response

Response Note

#### **Quality Assurance Verification**

Verified By

**Due Date** 

Status

**Notes** 

This section not yet completed by QA.

#### Approval History

Date Approved

Approved By

Position

Date Printed: 2/14/2007

Page 1 of 1



# Data Review/Verification Checklist RADIOCHEMISTRY, First Level Review

2/12/2007 2:48:09 PM

Lot No., Due Date:

J7A200173,J7A230129,J7A230125; 03/05/2007,03/08/2007

Client, Site:

384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 7026384; RSR85907 Sr-85/90 by GPC-7

SDG, Matrix:

W05099; WATER

วบ	G, Matrix: W05099; WATER			
1.0 1.1	COC Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	Yes	No	N/A
<b>2.0</b> 2.1	QC Batch Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	Yes	No	N/A
2.2	Are the QC appropriate for the analysis included in the batch?	Yes	No	N/A
2.3	Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	Yes	No	N/A
2.4	Does the Worksheets include a Tracer Vial label for each sample?	Yes	No	N/A
	QC & Samples Is the blank results, yield, and MDA within contract limits?	Yes	No	N/A
3.2	Is the LCS result, yield, and MDA within contract limits?	Yes	No	N/A
3.3	Are the MS/MSD results, yields, and MDA within contract limits?	Yes	No	N/A
3.4	Are the duplicate result, yields, and MDAs within contract limits?	Yes	No	N/A
3.5	Are the sample yields and MDAs within contract limits?	Yes	No	N/A
	Raw Data Were results calculated in the correct units?	Yeş	No	N/A
4.2	Were analysis volumes entered correctly?	Yeş	No	N/A
4.3	Were Yields entered correctly?	Yeş	No	N/A
4.4	Were spectra reviewed/meet contractual requirements?	Yes	No	N/A
4.5	Were raw counts reviewed for anomalies?	Yes	No	N/A
<b>5.0</b> 5.1	Other Are all nonconformances included and noted?	Yes	No	N/A
5.2	Are all required forms filled out?	Yes	No	N/A
5.3	Was the correct methodology used?	Yes	No	N/A
5.4	Was transcription checked?	Yes	No	N/A
5.5	Were all calculations checked at a minimum frequency?	Yeş	No	N/A
5.6	Are worksheet entries complete and correct?	Yeş	No	N/A
6.0	Comments on any No response:			
		00. 280. 000 V TABLE 0000		
1	st Level Review Pan Queleran Date 2.12.07			
	Richland S_RADCALCv4.8.26	Page	e 1	



9. Do the duplicate sample results and yields meet acceptance

criteria? C. Other

### Data Review Checklist RADIOCHEMISTRY Second Level Review

OC Batch Number: 7026384 w 0 5099			
Review Item	Yes (V)	No (1)	N/A (√)
A. Sample Analysis		110(1)	11/12(1)
1. Are the sample yields within acceptance criteria?			
2. Is the sample Minimum Detectable Activity < the Contract			
Detection Limit?			
3. Are the correct isotopes reported?			
B. QC Samples			
<ol> <li>Is the Minimum Detectable Activity for the blank result ≤ the</li> </ol>			
Contract Detection Limit?			
2. Does the blank result meet the Contract criteria?			
3. Is the blank result < the Contract Detection Limit?			
4. Is the blank result > the Contract Detection Limit but the sample			
result < the Contract Detection Limit?			
5. Is the LCS recovery with contract acceptance criteria?			1
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection			
Limit?		]	
8. Do the MS/MSD results and yields meet acceptance criteria?			+
6. Do the Mishab results and yields theet acceptance enteria?			

1. Are all Nonconformances included and noted?		
2. Are all required forms filled out?		
3. Was the correct methodology used?		
4. Was transcription checked?		
5. Were all calculations checked at a minimum frequency?		
6. Were units checked?		
Comments on any "No" response:		
·		
Second Level Reviews Days of A Colo		



### Data Review/Verification Checklist RADIOCHEMISTRY, First Level Review

2/22/2007 1:22:52 PM

Page 1

Lot No., Due Date:

J7A220119,J7A230163; 03/05/2007,03/08/2007

Client, Site:

384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 7026400; RGAMLEPS Gamma by LEPS

SDG, Matrix:

QAS RADCALCv4.8.26

W05099; WATER

SE	DG, Matrix: W05099; WATER			
	.0 COC 1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	? Yes	No	N/A
<b>2.0</b> 2.1	<ul><li>.0 QC Batch</li><li>.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC B</li></ul>	Patah Shoot?	NI-	<b>N</b> 1/A
		Patch Sheet? Yes	NO	N/A
2.2	2 Are the QC appropriate for the analysis included in the batch?	Yes	No	N/A
2.3	3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	Yes	No	N/A
2.4	4 Does the Worksheets include a Tracer Vial label for each sample?	Yes	No	N/A
3.0	.0 QC & Samples			
3.1	1 Is the blank results, yield, and MDA within contract limits?	Yea	No	N/A
3.2	2 Is the LCS result, yield, and MDA within contract limits?	Yes	No	N/A
3.3	3 Are the MS/MSD results, yields, and MDA within contract limits?	Yes	No	N/A
3.4	4 Are the duplicate result, yields, and MDAs within contract limits?	Yeş	No	N/A
3.5	5 Are the sample yields and MDAs within contract limits?	Yea	No	N/A
U\$100-610			etterber Straffen	
<b>4.0</b> 4.1	.0 Raw Data 1 Were results calculated in the correct units?	Yes	No	N/A
4.2	2 Were analysis volumes entered correctly?	Yes	No	N/A
4.3	3 Were Yields entered correctly?	Yea	No	N/A
4.4	4 Were spectra reviewed/meet contractual requirements?	Yea	No	N/A
4.5	5 Were raw counts reviewed for anomalies?	Yes	No	N/A
	0 Other			
5.1	1 Are all nonconformances included and noted?	Yes	No	NA
5.2	2 Are all required forms filled out?	Yes	No	N/A
5.3	3 Was the correct methodology used?	Yeş	No	N/A
5.4	4 Was transcription checked?	Yeş	No	N/A
5.5	5 Were all calculations checked at a minimum frequency?	Yeş	No	N/A
5.6	6 Are worksheet entries complete and correct?	Yes	No	N/A
6.0	0 Comments on any No response:	TOTAL OF PROBLEMS S. S. MANAGAMAN PROCESSES A 7-10-100 MILLION PROPERTY AND ASSESSED.		BAPARIA LA LORGO
ાંગુકે ત્વી તાંગમાં નવુ	AL SAMM		Taka amenda yang maga	6000000 V 25cm
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16	TL Richland	Page	. 1	



Yes (V)	No (1)	N/A (\(\frac{1}{2}\))	
Yes (V)	No (V)	N/A (1)	
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## Data Review/Verification Checklist RADIOCHEMISTRY, First Level Review

2/5/2007 4:23:18 PM

Lot No., Due Date:

J7A200176,J7A220134,J7A230163,J7A230123; 03/05/2007,03/08/2007

Client, Site:

384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 7026396; RTC99 Tc-99 by LSC

SDG, Matrix: W05099; WATER

SDG, Matrix:	WU5U99; WATER			
8.0 Correction Calculation Pro	otocol Used.	Yes	No	N/A
8.01 The Appropriate Methods	s Were Used To Analyze the Samples	Yeş	No	N/A
OK 8.02 Final Results Are in the A	Appropriate Activity Units	Yes	No	N/A
· ·	uired QC Appropriate for the Method	Yes	No	N/A
OK 8.04 The Correct Tracer and C	QC Vials Where Used in the Samples	₩. Yes	No	N/A
Incorrect Tracer/Vial => JM7 8.05 Sample was Appropriate	311AD TCSG<>TCSE Q:V9  ly Traced Before or After Fractionating the Sample	Yeş	₩ No	N/A
OK 8.06 At Least the Minimum Sa	ample Volume Was Used	Yeş	No	N/A
OK 8.07 The Correct Count Geom	netry was Used.	Yeş	No	N/A
ОК	d for the Minimum Count Time or CRDL was Achieved.	<u></u>	10100 PH 2004	N/A
OK 8.09 Method Blank is within Co		4		N/A
OK 8.1 Comments:			.,,	
8.11 Matrix Blank is within Cor	ntrol Limits	Yes	No	 NI/A∗
No Matrix Blanks (MBlks) fou	ınd in Batch!			V
ОК	Limit Value (No B Flag Necessary).	Yes		
OK (RPD)	Equation Value within Control Limits.	Yes	No	N/A
8.14 LCS within Control Limits OK	<b>).</b>	Yes	No	N/A
8.15 MLCS within Control Limiting No Matrix Spikes (MLCS) four properties of the		Yes	No	N/A
8.16 MS within Control Limits. OK		Yes	No	N/A
8.17 Tracer within Control Lim  No Tracers found in Batch!	its.	Yes	No	N/A
and the second s	num Tracer Yield (No Failed Samples)	Yes	No	N/A
8.19 Sample Specific MDC <= OK	CRDL.	Yes	No	N/A
8.2 Comments:				
8.21 Result < Lc, Activity Not [ No Limit Specified!	Detected, U Flag.	Yes	No	N/A
8.22 Result < Mdc, Activity No No Positive Results	t Detected, U Flag.	Yes	No	N/A
OK Calc_IDL Not Calculated 8.23 Result <= Action Level, w		Vog	No	NI/A
OK; No Action Level Found :		Yes	NO	N/A
OK; No Callin Level Found 8.24 Result + 3s >=0, Not Too	Ministrative Construction is 1987 Market in the Construction in the Construction of th	Yeş	No	Ν/Δ
OK 8.25 Counting Spectrum are w		<u>V</u>		
No FWHM found in Batch Da		Yes	110	N/A
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QAS_RADCALCv4.8.26		raye	. 1	

8.26	Instruments have Current Calibrations.	Yes	No	N/A
8.27	Correct Count Library Used. No Count Library found in Batch Data!	Yes	No	N/A
8.28	Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later version.)	n <b>y</b> ès	No	N/A
8.29	Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later	<b>V¥ess</b> ion	NŧÒ.	N/A
8.3	Comments:			
8.31	Results Blank Subtracted as Appropriate.	Yeş	No	N/A
	OK			
Firs	t Level Review Date 2-5-07			
	Richland	Page :	 2	

QAS\_RADCALCv4.8.26



OC Batch Number:	1026396	
•	W05099	

A. Sample Analysis  1. Are the sample yields within acceptance criteria?  2. Is the sample Minimum Detectable Activity < the Contract	Yes (√)	No(1)	$ N/A(\sqrt{)} $
2. Is the sample Minimum Detectable Activity < the Contract	ì		1
2. Is the sample Minimum Detectable Activity < the Contract			
D-4			
Detection Limit?			.
3. Are the correct isotopes reported?			
B. QC Samples			
<ol> <li>Is the Minimum Detectable Activity for the blank result ≤ the</li> </ol>			
Contract Detection Limit?			
2. Does the blank result meet the Contract criteria?			
3. Is the blank result < the Contract Detection Limit?	· · · · · · · · · · · · · · · · · · ·		
4, Is the blank result > the Contract Detection Limit but the sample			
result < the Contract Detection Limit?			- Company of the Comp
5. Is the LCS recovery with contract acceptance criteria?			
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection			
Limit?	· married and reserved		-
8. Do the MS/MSD results and yields meet acceptance criteria?			
9. Do the duplicate sample results and yields meet acceptance			1
criteria?	-		1
C. Other	·		<u> </u>
1. Are all Nonconformances included and noted?			Market Control
2. Are all required forms filled out?			1
3. Was the correct methodology used?			1
4. Was transcription checked?			
5. Were all calculations checked at a minimum frequency?			
6. Were units checked?			

Second Level Review. Shareful a alam Date: 2-6-07



QAS RADCALCv4.8.26

### Data Review/Verification Checklist RADIOCHEMISTRY. First Level Review

2/7/2007 8:27:51 AM

Lot No., Due Date: J7A230163: 03/08/2007 Client, Site: 384868; PGW 615HANFORD HANFORD QC Batch No., Method Test: 7026385; RTRITIUM H-3 by LSC SDG, Matrix: W05099: WATER 8.0 Correction Calculation Protocol Used. No N/A 8.01 The Appropriate Methods Were Used To Analyze the Samples No N/A 8.02 Final Results Are in the Appropriate Activity Units Yeş No N/A 8.03 Batch Contains the Required QC Appropriate for the Method Yeş No N/A 8.04 The Correct Tracer and QC Vials Where Used in the Samples No N/A 8.05 Sample was Appropriately Traced Before or After Fractionating the Sample No N/A 8.06 At Least the Minimum Sample Volume Was Used No/ N/A Analysis Volume => JM7381AA 5.00<10.00 AL 2/7/07 JM74E1AA 5.00<10.00 JM7401AA 5.00<10.00 JM7421AA 5.00<10.00 Q:VB 8.07 The Correct Count Geometry was Used. N/A Yes Count Geometry => JNG0E1AF SVP15/5<>SVP10/10 JNG0E1AG SVP15/5<>SVP10/10 JNG0E1AA SVP15/5<>SVP10/10 OR AL 2/7/07 JNG0E1AC SVP15/5<>SVP10/10 JNG0E1AD SVP15/5<>SVP10/10 JNG0E1AE SVP15/5<>SVP10/10 JM7381AA SVP15/5<>SVP10/10 JM7381AE SVP15/5<>SVP10/10 JM74E1AA SVP15/5<>SVP10/10 JM7401AA SVP15/5<>SVP10/10 JM7421AA SVP15/5<>SVP10/10 Q:VC 8.08 The Sample was Counted for the Minimum Count Time or CRDL was Achieved. No N/A 8.09 Method Blank is within Control Limits. No N/A OK 8.1 Comments: 8.11 Matrix Blank is within Control Limits. No N/A 8.12 Method Blank(s) < QAS Limit Value (No B Flag Necessary). Yeş No N/A 8.13 QAS Specified Duplicate Equation Value within Control Limits. Yes No N/A OK (RPD) 8.14 LCS within Control Limits. Yeş No N/A 8.15 MLCS within Control Limits. Yes No N/A OK 8.16 MS within Control Limits. Yes No N/A No Matrix Spike Samples (MS) found in Batch! 8.17 Tracer within Control Limits. Yes No N/A No Tracers found in Batch! 8.18 Samples are above Minimum Tracer Yield (No Failed Samples) Yes No N/A No Tracers found in Batch! 8.19 Sample Specific MDC <= CRDL. No N/A 8.2 Comments: 8.21 Result < Lc, Activity Not Detected, U Flag. Yes No No Limit Specified! STL Richland Page 1

8.22 Result < Mdc, Activity Not Detected, U Flag.  No Positive Results	Yea	No	N/A
OK Calc_IDL Not Calculated  8.23 Result <= Action Level, when Defined. OK; No Action Level Found => H-3	Yes	No	N/A
OK; No Callin Level Found => H-3	<b>V</b>		
8.24 Result + 3s >=0, Not Too Negative.  OK	Yes	No	N/A
8.25 Counting Spectrum are within FWHM Limits.  No FWHM found in Batch Data!	Yes	No	N/A
8.26 Instruments have Current Calibrations.	Yes	No	N/A
8.27 Correct Count Library Used.  No Count Library found in Batch Data!	Yes	No	N/A
8.28 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later vi	ersion <b>tées</b>	No	N/A
8.29 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in I	ater Wesic	n <b>Neo)</b> .	N/A
8.3 Comments:	Microsopi (Microsopi (		
8.31 Results Blank Subtracted as Appropriate. OK	Yeş	No	N/A
	20144489900697464400000000000000000000000000000	TATOTO AND THE HEAVILY AND THE	***************************************
First Level Review Malla Solly Date 2.7-07			
STL Richland QAS_RADCALCV4.8.26  2/7/07  Paw Anderson	Page	2	



Review Item	Yes (√)	No (V)	$N/A(\sqrt{)}$
A. Sample Analysis			12022(1)
1. Are the sample yields within acceptance criteria?			
2. Is the sample Minimum Detectable Activity < the Contract			
Detection Limit?		1	.
3. Are the correct isotopes reported?			
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the		1	
Contract Detection Limit?		1	
2. Does the blank result meet the Contract criteria?			
3. Is the blank result < the Contract Detection Limit?	-		
4. Is the blank result > the Contract Detection Limit but the sample			
result < the Contract Detection Limit?			
5. Is the LCS recovery with contract acceptance criteria?			
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection			
Limit?		Les contracts of the contract of the contr	
8. Do the MS/MSD results and yields meet acceptance criteria?			
9. Do the duplicate sample results and yields meet acceptance			
criteria?			Ì
C. Other			·
1. Are all Nonconformances included and noted?			
2. Are all required forms filled out?			
3. Was the correct methodology used?			
4. Was transcription checked?			
5. Were all calculations checked at a minimum frequency?			
6. Were units checked?			·



### Data Review/Verification Checklist RADIOCHEMISTRY, First Level Review

2/28/2007 4:16:19 PM

Lot No., Du⊕ Date:

J7A230163; 03/08/2007

Client, Site:

384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 7026383; RUNAT UNat by KPA

SDG, Matrix:

W05099; WATER

sions?	Yes	No	N/A
7990			
QC Batch Sheet?	Yeş	No	N/A
	Yes	No	N/A
etc?	Yes	No	N/A
	Yes	No	N/A
	Y		
	Yes	No	N/A
	Yes	No	N/A
	Yes	No	N/A
ONE SIGN SIGN AND ART ARE	Yes	No	N/A
	Yea	No	N/A
	Yea	No	N/A
	Yes	No	N/A
	Yes	No	N/A
Alles (Control of Control of Cont	Yes	No	N/A
	Yes	No	N/A
	•		
	Yes	No	N/A
	Yes	No	N/A
er en de de menomente en	Yes	No	N/A
ymthidain dalada ayuluur maa ay yy 1908 PO 2001 100d allahabbuun maanna sa sa say maanna say sa say maanna say	Yes	No	N/A
	Yes	No	N/A
W. of A. (1997)	Yes	No	N/A
от в торого долго до водарен у торого до водова до верхности в подателения водова на подателения водова до верхности в подателения в п	NACORALIC MECANOMICOLOGICO	h-deblopen op aarmoogsa t	***************************************
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First Level Review

QAS\_RADCALCv4.8.26

Date

2/28/07

Page 1



Review Item	Yes (√)	No (1)	N/A (V)
A. Sample Analysis		1	1022(1)
1. Are the sample yields within acceptance criteria?			ĺ
2. Is the sample Minimum Detectable Activity < the Contract			
Detection Limit?		į	. [
3. Are the correct isotopes reported?			
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the			}
Contract Detection Limit?			į
2. Does the blank result meet the Contract criteria?			
3. Is the blank result < the Contract Detection Limit?			
4. Is the blank result > the Contract Detection Limit but the sample			
result < the Contract Detection Limit?			
5. Is the LCS recovery with contract acceptance criteria?			
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?			
8. Do the MS/MSD results and yields meet acceptance criteria?			
Do the duplicate sample results and yields meet acceptance			
criteria?			
C. Other	<del>                                     </del>		<u> </u>
1. Are all Nonconformances included and noted?			
2. Are all required forms filled out?	<del>                                     </del>		
3. Was the correct methodology used?	<del>                                     </del>		
4. Was transcription checked?		<u> </u>	
5. Were all calculations checked at a minimum frequency?		<del> </del>	
6. Were units checked?			
Comments on any "No" response:			
•		,	



### Richland Laboratory Data Review Check List **Hexavalent Chromium**

Work Order Number(s): JM8VH, JM8V0, JM8V2, JNGXQ  Lab Sample Numbers or SDG: W05099		·		
Method/Test/Parameter: Coliform				
Review Item	Yes (🗸)	No (✓)	N/A (*)	2 <sup>nd</sup> Level Review (✓)
A. Initial Calibration			<b>✓</b>	
1. Performed at required frequency with required number of levels?				
2. Correlation coefficient within QC limits?			<b>√</b>	
3. Initial calibration verification (ICV) analyzed immediately after calibration and results within QC limits?			<b>✓</b>	
4. Initial calibration blank (ICB) analyzed immediately after ICV and concentrations of all parameters ≤ reporting limit?			<b>✓</b>	
B. Continuing Calibration			<b>✓</b>	
1. CCV analyzed at required frequency and all parameters within QC limits?				
2. CCB analyzed at required frequency and all results < reporting limit?			1	
C. Sample Analysis	<b>V</b>			
Were any samples with concentrations above the linear range for any parameter diluted and reanalyzed?		The state of the s		
2. Were all sample holding times met?	1			
<ul><li>D. QC Samples</li><li>1. All results for the preparation blank below limits?</li></ul>	1			
2. MS or MS/MSD recoveries within QC limits and %RPD (for MSD) acceptable?			1	
3. LCS percent recovery within QC limits and %RPD (for LCSD) acceptable?	<b>V</b>			
4. Analytical spikes within QC limits where applicable?			<b>✓</b>	
5. ICP only: One serial dilution performed per SDG?			<b>V</b>	
6. ICP only: CRDL standard (CRI or CRA) analyzed at required frequency?			<b>V</b>	
7. ICP only: Interference check samples (ICSA, ICSAB) and HICAL analyzed at the required frequencies and within QC limits?			<b>V</b>	

Review Item	Yes (✓)	No (✓)	N/A (✓)	2 <sup>nd</sup> Level Review (✓)
E. Other	<b>V</b>			
1. Are all nonconformances included and noted?				
2. Is the correct date and time of analysis shown?	✓			
3. Did the analyst sign and date the front page of the analytical run?	✓			
4. Correct methodology used?	✓			
5. Transcriptions checked?	✓			
6. Calculations checked at minimum frequency?	✓			
7. Units checked?	✓			

Comments on any "No" response	
-	
Analyst: E Whileung	Date: 2/28/07
Second-Level Review Therry & Olsen	Date: 2-28-67
//	

PNNL J7A260173 W05099
Due 03:05:07

### CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.# I07-019-10

Mul	10 509 03 05	U.	/						Telephone No.	MSI	N FA	x
lector	Fluor m	amorc				Contact/Rec			509-376-5056			
	F. M. HALL Dot Stewart Purchase Order/Charge Code Sampling Origin											
'No. 17-019							Site		Ice Chest No.	TE ALLAN	Temp.	
iect Title						Loaly	XX: HNF	-N-506-2				
00KR4IAM(1/2)	<u>-LOI. JANUA</u>	RY 20	07			Method of S			Bill of Lading/Ai	r Bill No.		_
n <mark>ned To (Lab)</mark> Severn Trent Inco	rnorated. Rich	land		Constitution of the consti	AND THE PERSON NAMED IN COLUMN TWO	Govt. Vel			Offsite Property	No.		
tocol							Pri	ority: 45 Days		CD . 1.4	· · · · · · · · · · · · · · · · · · ·	on: Yes 🗹 No 🗀
CERCLA SSIBLE SAMPI  ** Contains Radi asable per DOE Ord	oactive Material	at conc	ARKS entrations that a	are not regulat	ed for transp	ortation per 49	CFR but are not	SPECIAL INSTRUCTIONS All Labs except WSCF: Batch all PN closure of 14 days. WSCF: Batch all PNNL GW samples		G, I, S, and W 07	SAFs into one S	DG, not to exceed SDG
	V.1 ID	*	Date	Time	No/Typ	e Container		Sample Ana	ysis	Preservative		
Sample No.	Lab ID	1		1254	1x20-m		Activity Scan			None		
1LN79		W	1/18/07			mL G/P	1 '	ECIP_GPC: Sr-90 (1)		HNO3 to pH <	2	
1LN79		W	<u> </u>	V	321000							
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			0		Da	re/Time	Received By	Print Sign	Date/Time		N	Aatrix *
Relinquished By	Hanford Prin	ıt -	Sign	AAA		2007	S. Sm. Ye		JAN 18 2007_	s	= Soil	DS = Drum Sol
F.W.	HALL '	516		// JAI		te/Time	Received By		Date/Time	SE	<ul><li>Sediment</li><li>Solid</li></ul>	DL = Drum Lic T = Tissue
Relinquished By	é	e.	V 7		Da	IC I HIK				SI. W	= Sludge = Water	WI = Wine I. = Liquid
					~	to/Time	Received By		Date/Time	0	= Oil	V = Vegetation X = Other
Relinquished By					Da	te/Time	Received by			A	= Air	A = (Miel
						4. Trime	Received By		Date/Time	;		
Relinquished By					Da	te/Time	icceived by					
											Dota	/Time



### Sample Check-in List

Clie	nt: Pow SDG #: W	05099 NATI SAF H.	I07-019
Wor	k Order Number: <u>774200173</u>	Chain of Custody #	07-019-10
	ping Container ID;	Air Bill #	And in contrast of the Party of
1.	Custody Seals on shipping container into		
2.	Custody Seals dated and signed?		1) Yes (PNO1)
3.	Chain of Custody record present?		[] Yes [/ No[]
4.		S. Verniculiants and	Yes[]No[]
6.	Number of samples in shipping container	/	ials is NA [] Wei (1) Dr
7.	Sample holding times exceeded?	,	(*
8.	Samples have:	INA J	/ Yes[] No[]
	lapecustody seals	hazard lab	els
9.	Samples are:	appropriate	samples labels
	in good condition broken	leaking. have air bu (Only for sample.	bbles s requiring head space)
10.	Sample pH taken? NA() pH	(<5\N, bH>5() bH>0(	)
11.	Sample Location, Sample Collector Lister *For documentation only. No corrective a	82 a	Yes LINO[]
12.	Were any anomalies identified in sample r		V ()
3.	Description of anomalies (include sample		Yes () No W
			and considerable and the same of the same
ample	Custodian: S. Sm. 44	Date: 07.18	.67 1510
Cli	ent Sample ID Analysis Requested	Condition	and was marked in the contract of the contract
**************************************			Comments/Action
lient In	formed onby	Daras	Consideration to the processing of the consideration of the constant of
1 No :	action necessary; process as is.	rerson contacted	and the second s
	fannger	n	
5-023.	9/03, Rev. 5	Date Date	المحاولة الأولاية والمراجعة والمحاولة والمحاولة المحاولة المحاولة المحاولة المحاولة المحاولة المحاولة المحاولة

PNNL J7	1200 1 00509 Du Fluo	769 9 203	3.05 -07	y	CHAIN C	OF (	CUSTODY	SAMPLE A	NALYSI	S REQUEST	1	C.O.C.	S0'	7-00	1-92
Collector	F. M.	HALL	-				quester			Telephone No.		SIN	FAX		
SAF No.						t Stew: oling O		***************************************		509-376-5056 Purchase Order					
S07-001					Ha:	nford S	Site								
Proiect Title SURV. JANUAI	RY 2007				Loc	aba	OK: HNF-	N-506-2		Ice Chest No.	4F5-01-1	$\infty$ $\leq^{\text{Tem}}$	р.		
Shinned To (Lab)		lokinist powapiewaja			Metho	od of S	Shipment		***************************************	Bill of Lading/A					
Severn Trent Inc  Protocol	cornorated. Ric	hland	oliniskop kontrastronjenje pojugaj suppratusajno posigarnom	and the second s	Go	vt. Vel				Office B	<b>3</b> .7				
SURV							Pri	ority: 45 Days		Offsite Property	No.				
POSSIBLE SAME ** ** Contains Rac releasable per DOE Or	dioactive Materi	al at cor	ncentrations that	t are not regulat	ted for transportation	1 per 49	CFR but are not	closure of 14 days.	F: Batch all PNNL:	Hold Time samples submitted under A mitted into one SDG, daily	, G, I, S, and W	Activity Ex 07 SAFs int	emption: o one SDG, 1	Yes 🗹	No Leed SDG
Sample No.	Lab ID	*	Date	Time	No/Type Conta	ainer			Sample Analysis			rvative			
B1LNW1		W	1/18/07	1254	1x20-mL P		Activity Scan		<del>\</del>	· · · · · · · · · · · · · · · · · · ·	None				
B1LNW1		W	17 3/	11/	1x500-mL P		TC99_ETVDSK_	LSC: Tc-99 (1)			HCI to pH <2	)			<del></del>
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Relinquished By Fluor Har F. M. HAL			Sign	JAI	Date/Time / N 1 8 2007	7	Received By A. M. H	S-Sm. V	Sign	JAN 18 2007	7510 s	= Soil		)S =	Drum Sol
Relinquished By		,	<i>y</i>	***************************************	Date/Time		Received By			Date/Time	SE SO SI W	= Sedime = Solid = Sludge = Water	7	VI = :	Drum Lic Tissue Wine Liquid
Relinquished By					Date/Time		Received By			Date/Time	O A	= Oil = Air		/ == '	Vegetatio Other
Relinquished By	***************************************		N-M-		Date/Time		Received By		***************************************	Date/Time			-		

Disposed By

Date/Time

FINAL SAMPLE

DISPOSITION

Disposal Method (e.g., Return to customer, per lab procedure, used in process)

PNNL J7A200176 W05099 due 03.05.07
, WOSU99
due 03.05.07

C.O.C.#

CO7 001 02

a '	W050	99			CHAIN O	F CUSTODY/	SAMPLE ANAL	YSIS REQUEST		3	U /-UU	1-82	
du	L03.05		i							Page	<u>1</u> of	<u>1</u>	
ollector		r Han . HALI				Contact/Requester Dot Stewart			lephone No. MSIN FAX 509-376-5056				
AF No. S07-001					Samplir	Sampling Origin Hanford Site			Purchase Order/Charge Code				
SURV. JANUARY 2007									AFS-04-05 Temp.				
hinned To (Lab)					Method	Method of Shipment			Bill of Lading/Air Bill No.				
Severn Trent Incorporated, Richland rotocol					Govt.	Govt. Vehicle  Priority: 45 Days			Offsite Property No.				
SURV OSSIBLE SAMP ** ** Contains Rac eleasable per DOE Or	lioactive Materia	al at con	centrations that	are not regulat	ed for transportation pe		SPECIAL INSTRUCTIONS All Labs except WSCF: Batch al closure of 14 days.	Hold Time I PNNL samples submitted under A supples submitted into one SDG, daily	, G, I, S, and W 07 S	vity Exemption AFs into one SD	: Yes 🗹	No ceed SDG	
Sample No.	Lab ID	*	Date	Time	No/Type Contain	ег	Sample A	Analysis		Pr	eservative	000000000000000000000000000000000000000	
B1LNV6		W	V/(8/07	1114	1x20-mL P	Activity Scan		None					
B1LNV6		W	J.		1x500-mL P	TC99_ETVDSK_I	_SC: Tc-99 (1)		HCI to pH <2				
							JM5PE						
			-										
				0 .0	h 00							****	
			-	$V_{\iota}V$	7/18/07							****	
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Relinquished By Fluor Ha E M HA Relinquished By		To the	Sign H	ZJAN	Date/Time / Date/Time	Received By  Received By	Sign Sign	JAN 1 8 2002 Date/Time	S = SE =	Sediment Solid	DS = DI. = T =	Drum Solid Drum Lian Tissue Wine	
Relinquished By	Wayne,				Date/Time	Received By		Date/Time	W =	Water Oil Air	I. = V =	Liquid Vegetation Other	
Relinquished By					Date/Time	Received By		Date/Time					
TINIAR CAREE	E   50	V.F12 *	/ D :	,	1-111-		w. T					·········	
FINAL SAMPLE	-   .	viethod	(e.g., Keturn to	customer, per	lab procedure, used in p	process)	Disposed By			Date/Time			

# MINING STL

### Sample Check in List

Date.	Time Received:	01.18.07 1510	)								
Clier	n: <u>P6W</u>	SDG #: WO	5099 NA[]	SAF #	507-001						
Work	Order Number:	7A200176	Chain of Custod	v# 50	7-001-92,82						
		and the state of t	•								
1.	Custody Seals	A A									
2.		dated and signed?		NA (	NA [] Yes ( No[)						
3.		dy record present?		NA[] Yes N No[]							
		Yes / Noll									
4.	Cooler temperature: NA N S. Vermiculite/packing materials is NA N West 13 Dec. 1										
6.	container:										
7.	Sample holding	Yes ( ) N. ( )									
8.	Samples have:										
*	tape custody s	eals	ha	zard labe	.1s						
9,	Samples are:	•			samples labels						
	brokenleakinghave air bubbles (Only for samples requiring head space)										
10.	Sample pH taken? NA() pH<2//> PH>2() pH>9()										
11.	Sample Location, Sample Collector Listed? *  *For documentation only. No corrective action needed.  Yes // No										
12.	Were any anomalies identified in sample require?										
13.	Description of anomalies (include sample numbers):										
		The state of the s	and the first parameters where the construction is a parameter than the second	ورون درون درون درون المعاون ال	ari jama kandang umum da bay ati mi Magangandangan na sayar a mananganda ating ki pa bata, ambanasa ayan ka						
Sample	Custodian: A	- Smith	Date: 07	.18.0	7 1510						
Clie	int Sample ID	Analysis Requested	Condition		Construction of the control of the c						
	and a superconduction of the contract of the c		OVIIVITOR	and the property of the second section of the	Comments/Action						
Client Int	formed on										
1 Non	ction necessary; pro	byby	Person cont	acted							
riojeci M	annger	ه المعارضة المستحدة المستحدة المستحددة المستحد	Date	and the second s	formation according to the state of the stat						
LS-023, 9	103, Rev. 5				The state of the s						

PNNL J74220119
1,105099
Aug 03.05.07

T07 016 2

	W05	090	7	1	CHAIN OF	CUSTODY/	SAMPLE ANALYS	AS REQUEST	107-010-2
D	W050	05	07						Page <u>1</u> of <u>1</u>
ollector	Fluor H	Hanton	d		Contact/F Dot Ste	Requester tewart		Telephone No. M 509-376-5056	ISIN FAX
AF No. 107-016	S F WWW. C V.	<del>Patrician</del>			Sampling Hanford	g Origin		Purchase Order/Charge Code	e
roiect Title 2ZP1-LOI, DECE	'EMPER 2006	۷.		× .			506-2	Ice Chest No. ERC-FS-Oc	O/ Temp.
hinned To (Lab)				NAME OF THE PERSON NAME OF THE P		of Shipment		Bill of Lading/Air Bill No.	
Severn Trent Inco	ornorated, Kic	:hlana	assistation and an activities of the activities		Govt. V		iority: 45 Days	Offsite Property No.	ACCORDANCE AND ACCORD
CERCLA  POSSIBLE SAMP  ** ** Contains Rad eleasable per DOE Orc	idioactive Materia	ial at con	oncentrations that	are not regulat	ated for transportation per		SPECIAL INSTRUCTIONS	NL samples submitted under A, G, I, S, and W	Activity Exemption: Yes V No V 07 SAFs into one SDG, not to exceed SDG
Sample No.	Lab ID	*	Date	Time	No/Type Container	er T	Sample Analy	ysis	Preservative
B1LK81	1	W	1-19-07	1321	1x20-mL P	Activity Scan		None	
B1LK81	l	W	149-07		2x4000-mL G/P	I129LL_SEP_LEF	PS_GS_LL: I-129 (1)	None	
		<u> </u>							
		<del> </del>	-	<u></u>			JM6F	<u>'X</u>	
	<del> </del>	+-'	-	-					
		+-		-					
***************************************	+	-		<del>                                     </del>			- William Make Make Make Make Make Make Make Make		
		1_							
				<del></del>					
	-	+-	-						
w	+	+-		<del> </del>			1644		***************************************
		+					<b></b>		
				: ,					
					Date/Time 39	<i>=</i>		Date/Time 1350	
Relinquished Byford F. M. HALL	I Strint			<b>MAN</b>			Print Sign	1	Matrix *
Relinquished By		T/s			Date/Time	Received By	alon Interne	Date/Time SE SC SO SI W	= Solid T = Tissue
Relinquished By			***************************************	the state of the s	Date/Time	Received By		Date/Time O A	= Oil V = Vegetati = Air X = Other
Relinquished By					Date/Time	Received By		Date/Time	
FINAL SAMPLE	.	Methor	d (e.g., Return to	customer, per	r lab procedure, used in pro	rocess)	Disposed By	<u></u>	Date/Time

# TIME STI

Clier	e/Time Received: 1/19/07	. I to me with
Wor	SDG	H: W05077 NA [] SAFH F07-016 NA
., 01	rolder Humber: 07/12/2011	Chain of Custody # Ton-Ou
I	Custodi S	Air Bill #
2.	onta	ner intact?  NA[] Yes[No[]
	Custody Seals dated and signed?	NA [] Yes PNO []
3.	Chain of Custody record present	
4.	Cooler ternpérature: NA	5. Vermiculite/packing margarists
6.	Number of samples in shipping co	intainer:
7.	Sample holding times exceeded?	
8.	Samples have:	NA [ Yes [] No []
	tapecustody seals	hazard labels
9.		appropriate samples labels
	Samples are:in good conditionbroken	leaking.
		have air bubble
10.	Sample pH taken? NA [	(Only for samples requiring head space)  pH<2 [ pH>2 [ ] pH>9 [ ]
Η.	Sample Location, Sample College	The top and the second
	or documentation only. No corre	ctive action needed. Yes (7 No ( )
12.	Were any anomalies identified in sa	mple receipt?
13.		Imple numbers):
	P	7)
Sample (	Custodian: En Que	mitte 1/61
	2/ Samala I.O	Date: 1/9/07 1350
	R Sample 1D Analysis Reque	condition Comments/Action
lient Info	ormed onby	Person contacted
) No ac	tion necessary; process as is.	1 CISOH CON(ac(cd
	nager	
		Date

PNNLJ 7A220134 W05099	
due 03.05.07	?
Collector	

C.O.C.# W07 012 420

W05099 CHAI	N OF CUSTODY/SAMPLI	E ANALYSIS REQUEST	WU/-U12-42U			
due 03 05.07 CHAI			Page <u>1</u> of <u>1</u>			
Collector K & Hunge	Contact/Requester Dot Stewart	Telephone No.	Telephone No. MSIN FAX 509-376-5056			
SAF No. W07-012	Sampling Origin Hanford Site	Purchase Order/C	Charge Code			
Project Title RCRA, DECEMBER 2006	HNF-N-506 3	Ice Chest No.	Тетр.			
Shinned To (Lah)	Method of Shipment	Bill of Lading/Air	Bill No.			
Severn Trent Incorporated. Richland Protocol	Govt. Vehicle Priority: 45 Days	Offsite Property N	· (o.			
RCRA POSSIBLE SAMPLE HAZARDS/REMARKS		STRUCTIONS Hold Time	Total Activity Exemption: Yes V No			
** ** Contains Radioactive Material at concentrations that are not regulated for transpreleasable per DOE Order 5400.5 (1990/1993)	ortation per 49 CFR but are not All Labs excep closure of 14 d	t WSCF: Batch all PNNL samples submitted under A, G	G, I, S, and W 07 SAFs into one SDG, not to exceed SDG			
Sample No. Lab ID * Date Time No/Type	Container	Sample Analysis	Preservative			
B1LJF6 W 1-19-27 0909 1x20-ml	P Activity Scan	N	lone			
B1LJF6 W 1x1000-	mL P 9310_ALPHABETA_GPC: Alpha	a + Beta (2)	INO3 to pH <2			
B1LJF6 W 1x500-m	nL P TC99_ETVDSK_LSC: Tc-99 (1)	l l	HCI to pH <2			
		TM6JQ				
	2243		(nill)			
	Time/040 Received By Pluor Hanford	Sign Date/Time	Matrix *			
KRRUSE JS Calge JAN 19	2007 I FM HALL	JAN 1 9 20	S = Soil DS = Drum Solid			
FIGOT Namora	Time 137 Received By	ERIC DARBY JAN 192	SE         = Sediment         DI.         = Drum Lioni           SO         = Solid         T         = Tissue           SI.         = Sludge         WI         = Wine			
Relinquished By Date/		Date/Time	W = Water I. = Liquid O = Oil V = Vegetation A = Air X = Other			
Relinquished By Date/	Time Received By	Date/Time	L			
FINAL SAMPLE Disposal Method (e.g., Return to customer, per lab procedure DISPOSITION	e, used in process)	Disposed By	Date/Time			

PNNL J	172201 W051	3 4 999	.07	1	CHAIN OF	CUSTODY	/SAMPLE ANALYS	SIS REQUEST	C.O.C. # W07-012-42  Page 1 of 1
Collector	Fluor Ha	mford	0/1		Contact/Re			Telephone No.	MSIN FAX
AF No.	HAH.M.Z	1			Dot Stev Sampling			509-376-5056 Purchase Order/Charge	e Code
W07-012					Hanford	Site			
roject Title RCRA, DECEM	RER 2006					LINE-N	1-506.2	Ice Chest No. ERC-F	5-001 Temp.
hinned To (Lab)					Method of			Bill of Lading/Air Bill I	No.
Severn Trent Inc	omorated. Ric	hland	anager i i i i i i i i i i i i i i i i i i i		Goyt. Ve	ehicle			
rotocol RCRA						Pri	ority: 45 Days	Offsite Property No.	
** ** Contains Raceleasable per DOE On				are not regulat	ed for transportation per 49	O CFR but are not	closure of 14 days.	NL samples submitted under A, G, I, S, submitted into one SDG, daily closure.	and W 07 SAFs into one SDG, not to exceed SI
Sample No.	Lab ID	*	Date	Time	No/Type Container		Sample Anal	ysis	Preservative
B1LJH1		W	1-19-07	1020	1x20-mL P	Activity Scan		None	
B1LJH1		W	1-19-07	1020	1x500-mL P	TC99_ETVDSK_	LSC: Tc-99 (1)	HCI to	pH <2
							TML	:02	
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	1	-							
			I	ļ		1			
					- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1				

Relinquished By	Print Sign	Date/Time / 💆	Received By	Print	Sign	Date/Time	Matrix *
Fluor Hanford F. M. HALL Relinquished By	Jan Jan	1 9 2007 Date/Time	ER.C Received By	Durley	En Dut	7-19.07 Date/Time	S = Soil DS = Drum Solid SE = Sediment DI = Drum Lioui SO = Solid T = Tissue
Relinquished By		Date/Time	Received By	***		Date/Time	SI
Relinquished By		Date/Time	Received By			Date/Time	
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per l	ab procedure, used in pro	cess)		Disposed By		Date/Time



Cli	ient: PNK	SDG #: ₩	05099 NA[] S	AF H: WO7-012 NA()
	SIN OLGER TARRIDGE: O	11/00/0134	Chain of Custody #	W07-012-420,42
Shi	pping Container ID:		Air Bill #	
1.	Custody Seals	on shipping container int	act?	NA[] Yes [ No[]
2.	Custody Seals	dated and signed?		
3.	Chain of Custo	dy record present?		NA[] Yes (Y No[]
4.	Cooler tempéra	ture:NA lai	S. Voene e. V.	Yes (UNO []  materials is NA (Wet [] Dry []
6.	Number of sam	ples in shipping contained	o vermiculite/packing r	materials is NA (Wel [] Dry []
7.	Sample holding	times exceeded?		
8.	Samples have:			NA[] Yes[] No[]
	custody so	eals	hazaro	d labels priate samples labels
9	Samples are:in good cobroken	ndition	leakin	· •
10.	Sample pH taker	? NA{} pH	Only for sar PH>2[] pH	inples requiring head spaces
11.	Sample Location *For documentat	, Sample Collector Listed ion only. No corrective a		Yes (4 No []
12.	Were any anomai	ies identified in sample to Omalies (include sample r	ceipt?	Yes () No H
	Custodian:	n Darby		1/07 1350
		Analysis Requested	Condition	Comments/Action
lient Int	formed on	by	Person contacted	
) No a	action necessary; proc	ess as is.		A service of the serv
roiect M	lanager			

PNNL J1A 230123 W05099	-
Due 03/08/07	

## CHAIN OF CUCTODV/SAMPLE ANALYSIS DEOLIEST

C.O.C.# W07-012-334

A	ue 03/	108	107	,	CHAI	NOF		SAIVIELE.	ANALISIS	REQUESI	· <u>[</u>		1 6 1	
									Telephone No.	MSIN		<u>1</u> of <u>1</u>		
SAF No. Sa						Dot Stew Sampling ( Hanford	)rigin			509-376-5056 Purchase Order				
Project Title RCRA, DECEM	BER 2006					Į.	#NF-N-	506-1	v.46	Ice Chest No.	ひもう	Temp.		
Shinned To (Lah) Severn Trent Inc		hland				Method of Govt. Ve	Shipment			Bill of Lading/A	ir Bill No.			
Protocol RCRA							Prio	ority: 45 Days		Offsite Property	No.			
POSSIBLE SAMP  ** ** Contains Rac releasable per DOE Or	dioactive Materia	l at cor	ncentrations that	are not regulat	ed for transp	ortation per 49	CFR but are not	closure of 14 days.	SCF: Batch all PNNL samp		, G, I, S, and W 07 S.	vity Exemption AFs into one SDO	: Yes ☑ No ☐ G, not to exceed SDG	
Sample No.	Lab ID	*	Date	Time		Container			Sample Analysis			Pr	eservative	-
B1LJ93		W		<u> </u>	1x20-ml		Activity Scan				None			
B1LJ93		W	01-22-07	1006	1x500-m	ıL P	TC99_ETVDSK_I	_SC: Tc-99 (1)			HCl to pH <2			
								יט	MINK					
		-											Water Commence of the Commence	
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		<u> </u>							***************************************				***************************************	
		<u> </u>												
		<u></u>		<u> </u>	<u></u>		1				<u> </u>			
Relinquished By	J. YOUNG	$\prec$	Sign		Date/	Time 1570 -2007	Received By  ERC	Print	Sign En Dav	Date/Time	07/5/0 =	Matr	ix *  DS = Drum Solid	a
Relinquished By				<del>)</del>	Date/		Received By	The state of the s		Date/Time	SI. =	Sludge	DI. = Drum Liou T = Tissue WI = Wine	
Relinquished By Date					Date/	Time	Received By			Date/Time	0 =	Water Oil Air	I. = Liquid V = Vegetation X = Other	ì
Relinquished By			1,000		Date/	Time	Received By		W	Date/Time			77.77.49.49.49.49.49.49.49.49.49.49.49.49.49.	
FINAL SAMPL DISPOSITION		Method	l (e.g., Return to	customer, per	lab procedure	e, used in proc	ess)	**************************************	Disposed By			Date/Time	3	



Sample Check in List

Clien	PNL	SDG #: <b>ω</b>	15099 NAIT SA	NFH W07-012 NA []
Work	Order Number:	T7A230123	Chair of C	W07-012-334
Shipp	ing Container ID	Cook	All Pile	W01-012-334
1	Custody Seals	on shipping container into	All Dill #	
2.		dated and signed?		NA [] Yes [] No []
3.		ody record present?		NA[] Yes [7 No[]
4.	Cooler ternoen	of record present?		Yes (NO )
6.	Number of sam	NA NA	5. Vermiculite/packing in	Yes [JNo[] naterials is NA [JWei [] Div
7.		outblug coursingt	IV CASS	
8.		times exceeded?	in samme	NA [Yes [] No[]
0.	Samples have:tape			
	custody s	eals .	hazard pprop	l labels priate samples labels
),	Samples are:	Onditina		and thies labels
	broken		leaking	in the term
0.	Sample pH taker	22	Only for san	oples requiring to
1.		, , , , , bus	24 pH>2[] pH	>9 [ ]
	*For documentat	s, Sample Collector Listed? ion only. No corrective ac	) *	Yes [] No[]
		lies identified in sample re		
. ]	Description of an	Omaties (include sample n	output:	Yes [] No [4
		(Altered Sample III	umbers):	
male C	ustodian:	$I \cap I$		
		In John James	Date: 1/2:	2/07 1510
CHent	Sample 1D	Analysis Requested	Condition	
				Comments/Action
ent Infor	med on	by		
No acti	on necessary; pro-	by	Person contacted	
	3, Rev. 5		Date	

PNNLJ	7A230125
	WO 5099 Aug. 03.08-0
	due 03.08.0.

T07\_021\_10

,	W050	09	9	•	CHAI	A OL.	COSTODY	(/SA)	MPLE ANA	LYSIS F	<b>REQUEST</b>	•		10/-04	41-1V		
Ale	W050 U03	0	8-07				*						Page	<u>1</u> of	1		
Collector	Hanford				(	Contact/Re					Telephone No. 509-376-5056	M	SIN F.	AX			
SAF No. U.E. 107-021	PARCHEN				S	Sampling C Hanford	)rigin		***************************************		Purchase Order	Charge Code	e				
Project Title 2ZP1-LOL JANU	ARV 2007	· · · · · · · · · · · · · · · · · · ·					1.5 ·N .206	-3			Ice Chest No.	C - 4	Temp.				
Shinned To (Lab) Severn Trent Inco		.1				Method of					Bill of Lading/Air Bill No.						
Protocol  CERCLA	moraied, Kic	niana			-	Govt. Ve		riority:	45 Days	***************************************	Offsite Property No.						
POSSIBLE SAMPL  ** ** Contains Radio releasable per DOE Ordo	oactive Materia	l at cor	ncentrations that	are not regulat	ed for transpor	tation per 49	CFR but are not	All	CIAL INSTRUCTION Labs except WSCF: Batch sure of 14 days. CF: Batch all PNNL GW s	all PNNL sampl		G, I, S, and W	Activity Exempt 07 SAFs into one	ion: Yes SDG, not to e:	No xceed SDG		
Sample No.	Lab ID	*	Date	Time	No/Type (	Container			Sampl	e Analysis				Preservativ	e		
B1LPJ8		W	1-22-7	1325	1x20-mL	Р	Activity Scan					None					
B1LPJ8		W	b	1	3x1000-m	L G/P	SRISO_SEP_F	PRECIP_	_GPC: Sr-90 (1)			HNO3 to pH	<2				
											· · · · · · · · · · · · · · · · · · ·						
		ļ							***************************************		<del>,,,</del>						
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		<u> </u>													******		
		<b> </b>		<u> </u>						***************************************							
						***************************************		***************************************									
	- Adams																
Retinguished Room D. E. PARCHEN	Print	Λ	Sign		Date/Ti	ime 55(0 2 2007	Received By  ER, C Da		Print Sig	,	Date/Time	হাত	M	atrix *			
Relinquished By		7			Date/Ti		Received By	Cloy.	E Dal	7—JA	N 2 2 2007 Date/Time	SE SO SL	= Słudge	DI. = T = WI =	Drum Solid Drum Lioni Tissue Wine		
Relinquished By					Date/Ti	ime	Received By				Date/Time	W O A	= Water = Oil = Air	V =	: Liquid : Vegetation : Other		
Relinquished By				e e e e e e e e e e e e e e e e e e e	Date/Ti	ime	Received By	**************************************			Date/Time						
FINAL SAMPLE DISPOSITION	Disposal N	<b>Method</b>	(e.g., Return to	customer, per	lab procedure,	ure, used in process) Disposed By							Date/T	Date/Time			



# Sample Check-in List

Clie	ent:_PNL_	1/22/07 1510 SDG 11: U	105099 NA (1 GARA T
Wo	rk Order Number:	J7A230125	Chain of Custody # 107-021-10
Ship	pping Container ID		A in Bill 4
1.		s on shipping container into	Air Bill #
2.		S dated and signed?	MA (1) Yes W NO ()
3.		ody record present?	NA[] Yes Mo[]
4.			Yes No I
6.	Cooler temper	'ature:NA (4)	Yes No [] 5. Vermiculite/packing materials is NA ( Wet [] Dry
			*
7.	Sample holdin	g times exceeded?	NA [JYes[] No[]
8.	Samples have:		res[] No[]
	tape custody :	seals	hazard labels
9	Samples are:	4	appropriate samples labels
	in good c	ondition	leaking
	OLOVEI		have auchobet
10.	Sample pH take	n? NAII pH	(Only for samples requiring head space)  <2 pH>2 [ ] pH>9 [ ]
П.	Sample Locario	D 0- 1 0 11	C2 M pH>2[] pH>9[]
	*For documenta	n, Sample Collector Listed tion only. No corrective at	? * ction needed Yes (No []
2.	Were any anoma	alies identified in sample re	
3.	Description of a	Domalies Gratude	Yes () No [4]
		mantes (metude sample n	Yes () No [4]
	Custodian:	Em Duby	Date: 1/22/07 1570
Clie	ent Sample 1D	Analysis Requested	CODDITION COMMENTS
			Comments/Action
ent lof	Ormed on		
~111 J.J.[	ormed ou	by	Person contacted
	, (MC	reess as 1s.	
ject M	anager		Date

PNNLJ 1A	23012	9			CHAIN O	)F C	CUSTODY/	SAMPLE ANAL	YSIS R	EQUEST		C.O.C.#	S07-001	-64	
	Due of	3.0	8.07									Pag	e <u>1</u> of <u>1</u>		
Collector	D. R. B	WATER OF D				act/Req				<b>Felephone No.</b> 509-376-5056	MSI	4	FAX		
SAF No.					Samp	ling O	rigin	<u> </u>	]	Purchase Order/	Charge Code			$\neg$	
S07-001 Project Title						nford S				Ica Chaet Na A		Temp.			
SURV. JANUAR	Y 2007			*****				N-506-Z		Ice Chest NS A		I CHID.	-		
Shinned To (Lab) Severn Trent Inc.	ornorated Ric	hland		taro kalenya kesaja mananja mananjahan pel		<b>oll of S</b> vt. Veh	hipment		Bill of Lading/Air Bill No.						
Protocol	(MIRIBALIA)- INN			THE CONTROL OF THE PROPERTY OF	- JV	VI. VVII		ority: 45 Days		Offsite Property No.					
SURV POSSIBLE SAMP ** ** Contains Rac releasable per DOE Or	lioactive Materia	ıl at cor	centrations that	are not regulat	ted for transportation	per 49 (	and the second s	SPECIAL INSTRUCTION: All Labs except WSCF: Batch a closure of 14 days. WSCF: Batch all PNNL GW sa	all PNNL samples	s submitted under A,	G, I, S, and W 07 S		nption: Yes 💆 1 ne SDG, not to exceed		
Sample No.	Lab ID	*	Date	Time	No/Type Conta	iner		Sample	Analysis				Preservative		
B1LNM1		w	1/22/07	1253	1x20-mL P		Activity Scan				None	L			
B1LNM1		W	42401		3x1000-mL G	i/P	SRISO_SEP_PRE	ECIP_GPC: Sr-90 (1)			HNO3 to pH <2	2			
\			- V					- Al-s · · ·							
								JMTIV	<del></del>			****			
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			X		17210	1									
			0		1				·						
			1												
Relinquished By and O. R. BRE	ford Print MINGTON	R.	Meller Beller		N 2 2 2007  Date/Time	7	Received By  Received By	Print Sign	A	N 2 2 2007  Date/Time	SE =	Soil Sediment Solid	T = Ti	rum Liani issue	
Relinquished By					Date/Time	i	Received By			Date/Time	W =	Sludge Water Oil Air		iouid egetation	
Relinquished By	,,,,,,,,,,,				Date/Time	Ì	Received By			Date/Time					
FINAL SAMPL DISPOSITION	1 -	Method	(e.g., Return to	customer, per	lab procedure, used i	in proces	ss)	Disposed By	7			Date	e/Time		

PNNL J7A230129 W05099	
Due 03.08.07	7

CA7 AA1 65

2	Due o	2 S	20.00	1	CHAI	NOF	CUST	ODY/S	SAMPL	E ANAL)	YSIS R	EQUEST	•		3	v /-uu	11-05	
	or Hanford	50	° 1												Page	<u>1</u> of	1	
	R. BREWING	MOTE	CD J			Contact/Re				·········		<b>Felephone No.</b> 509-376-5056						
SAF No. S07-001	**********				, , , , , , , , , , , , , , , , , , ,	Sampling ( Hanford	Origin				þ	Purchase Order/Charge Code						
Proiect Title SURV. JANUARY	7.2007							HNE	-N-5	06-7		Ice Chest No. SAWS-115 Temp.						
SURV. JANUAR) Shinned To (Lah)	(2007					Method of		11,00		<u> </u>		<i>ے</i> Bill of Lading/A	ir Bill No.	113				
Severn Trent Incor Protocol	morated, Ricl	nland	линиционнициональных	Administration of the particular control of the particular of the		Govt. Ve												
SURV						Priority: 45 Days  Offsite Property N							No.	No.				
POSSIBLE SAMPL  ** ** Contains Radio releasable per DOE Orde	oactive Material	at cor	ncentrations that	are not regulate	ed for transpo	rtation per 49	CFR but are	not	All Labs excep closure of 14 d	STRUCTIONS t WSCF: Batch all I ays. all PNNL GW samp		submitted under A	, G, I, S, and	al Activity W 07 SAFs	Exemption into one SD	: Yes G, not to ex	No Laceed SDG	
Sample No.	Lab ID	*	Date	Time	No/Type	Container				Sample Aı	nalysis				Pr	reservative	>	
B1LNM2		W	1/22/07	1253	1x20-mL	Р	Activity S						None					
B1LNM2		W	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	V	3x1000-n	nL G/P	SRISO_	SEP_PRE	CIP_GPC: Si	-90 (1)			HNO3 to p	H <2				
											********							
											·							
										JMI	12 <u>X</u>							
	W-11										*							
	_				Λ.					··········								
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1		I		I						*******			L					
Relinquished By Fluor Hanto	Print	nr	Sign	- Axa	Date/T	Time 1570	Received By		Print	Sign	9 8 8 8	Date/Time	180		Matr	ix *		
D. R. BREW	INGTON A	<u> </u>		Ing JA	NZZ	<u> 2007</u>	ERIC	2 Dag	by Er	1 La	MAL	2 2 2007	s				Drum Solid	
Relinquished By					Date/T	ime	Received By	,	)	0		Date/Time		E = Sedi O = Solid L = Slud	đ	T ==	Drum Liani Tissne Wine	
Relinquished By			Perinse Laboratoria de la constanta de la cons		Date/T	ìme	Received By	/				Date/Time	W O	/ = Wat = Oil		I. = V =	Liquid Vegetation Other	
Relinquished By			WINNEY!		Date/T	ime	Received By	/		***************************************		Date/Time				<u> </u>		
FINAL SAMPLE DISPOSITION	Disposal M	lethod	(e.g., Return to	customer, per	lab procedure,	, used in proce	ess)			Disposed By	E				Date/Time	<del></del> ;		



# Sample Check-in List

Ψo	an order rannoer of the soll 27	05099 NA() SAF #: SO 7-001 NA() Chain of Custody # SOO7-001-64.65
Shi	pping Container ID:	Air Bill #
1.	Custody Seals on shipping container in	NA[] Yes[JNO[]
2.	Custody Seals dated and signed?	NA[] Yes[+No[]
3.	Chain of Custody record present?	·
4	Cooler température: NA	Yes [ No [ ]  5. Vermiculite/packing materials is NA [ Wet [ ] Dry [
6.	Number of samples in shipping contained	er: 2
7.	Sample holding times exceeded?	· — many training of the property of the prope
8.	Samples have:tape	NA MYes[] No[]
	custody seals	hazard labels
9	Samples are:	appropriate samples labels
10.		leaking.  have air bubbles  (Only for samples requiring head space)
П.	ν,, ( ) ()	7<2 [] pH>2 [] pH>9 []
	Sample Location, Sample Collector Liste *For documentation only. No corrective	action needed.
12.	Were any anomalies identified in sample	
13.	Description of anomaties (include sample	numbers):
Sample	Custodian: En Duby	
		Date: 1/22/07 1570
CII	ent Sample ID Analysis Requested	Condition Comments/Action
Hient Int	formed onby	Person contacted
] No a	ction necessary; process as is.	The second of th

PNNL J7/4230/63 W05099
W05099
due 13.08-07

A 0.7\_001\_1

	W0507	7		1	CHAI	NOF	CUSTODY	Y/S	AMPLE ANALYSIS	REQUEST	•		AV / = V	JU1-1		
d	W0509 LLE 03:08	-07	7									Page	<u>1</u> of	1		
Collector Fluc	or Hanford E. PAR <b>CH</b> EN	•				Contact/Re				Telephone No. 509-376-5056		MSIN I	FAX			
AF No.	So 1 7 11 10 11 11 11 11 11 11 11 11 11 11 11				."	Sampling (	)rigin		**************************************	Purchase Order		le				
A07-001 Project Title						Hanford	16 - N-20 t-	- 3		Ice Chest No.	C-4	Temp.				
hinned To (La		enderfore standard stand				Method of	Shipment		**************************************	Bill of Lading/A						
rotocol	Incorporated, Ric	chland		denomination of the contract o	ese este este este este este este este	Govt. Ve		Priorit	ty: 45 Days	Offsite Property No.						
** ** Contains	MPLE HAZARI Radioactive Materi C Order 5400.5 (199	al at cor	centrations that	are not regulat	ted for transp	ortation per 49		S	•	-	, G, I, S, and W	Activity Exemi 7 07 SAFs into one	otion: Yes	No xceed SDG		
Sample No.	Lab ID	*	Date	Time	No/Type	Container			Sample Analysis				Preservativ	e		
B1LN27		W	1-22-7	1325	1x20-ml	_ P	Activity Scan			None						
B1LN27							-mL G/P					None				
B1LN27		W	<u> </u>	1	1x500-m	nL P	TC99_ETVDSF	K_LS	C: Tc-99 (1)	marialità success	HCl to pH <	<2	***************************************			
									Vm731							
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Relinquished By	Prin		Sign		Date/	Time (CIC)	Received By		Print Sign	Date/Time p	so I		Matrix *			
Propries By D. E. PARCHE		2	<u>~</u>	Commen	AN 2 2	2007		Dine	- ^	JAN 2 2 2	007 s	= Soil		: Drum Soli		
Relinquished By	<i>y</i>	Di				Time	Received By			Date/Time	Date/Time			Drum Lia Tissue Wine Liquid		
Relinquished By Da				Date/	Time	Received By Date/Time							Vegetatio			
Relinquished By					Date/	Time	Received By		WANTE TO THE PARTY OF THE PARTY	Date/Time			······································			
******	DI DI Di L	Medica	1/2 = P		1-1 · - 1				n:			<b>~</b> .	·			
FINAL SAM		wethod	l (e.g., Return to	customer, per	iao procedur	e, usea in proc	ess)		Disposed By			Date	1 ime			

PNNLJ1A2	30163
WO	5099
Due	03.08.07

A 0.7 001 11

	W0509	9			CHAIN	OF C	CUSTODY	SAMPLE A	NALYSIS	REQUEST			AU/-U	VI-11		
a	WO 509 Due 03.0	8.6	07									Page	<u>1</u> of	1		
Collector Flu	ior Hanford J. YOUNG		•			ntact/Rec				<b>Telephone No.</b> 509-376-5056	MS	SIN F	AX			
SAF No. A07-001					San	mpling O	rigin			Purchase Order/	Charge Code					
Project Title						Hanford S	*******		- 110	Ice Chest No. 2	455	S C Temp.				
LLWMA(4)- Shinned To (L:	PA, JANUARY 2 ab)	007			Mei	thod of S	NF -N-S	0 6- /	p 46	Bill of Lading/Ai	-					
Severn Trent	Incorporated, Ric	hland				Govt. Veh						1110.				
Protocol Other						Priority: 45 Days Offsite Property No.										
** ** Contains	MPLE HAZARI s Radioactive Materi E Order 5400.5 (199	al at co	ncentrations that	t are not regula	ted for transportati	ion per 49 (	CFR but are not	closure of 14 days.	UCTIONS Ho CF: Batch all PNNL sam NL GW samples submit		G, I, S, and W	Activity Exempt 07 SAFs into one	ion: Yes SDG, not to	✓ No — exceed SDG		
Sample No	Lab ID	*	Date	Time	No/Type Cor	ntainer			Sample Analysis				Preservati	ve		
B1LN35		W	01-22-07	1205	1x20-mL P		Activity Scan				None		******			
B1LN35						G/P		PS_GS_LL: I-129 (		None						
B1LN35							TC99_ETVDSK_				HCl to pH <2					
B1LN35		W	<u> </u>		1x1000-mL	Р	906.0_H3_LSC:	Tritium (1)			None					
		_							7.20.7.3							
		-			•				JM13	8	WALK .		·······			
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		+											***************************************			
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		T							••••••							
	c							A A CONTRACTOR OF THE CONTRACT						***		
L				<u> </u>												
Fluor Hanf	ord /		<u></u>		D-4-/Ti		Received By	Print	G:	T) - A - MC'						
Relinquished Dx	NG Print	-/	Sign	3 /	Date/Time AN 2 2 20	7570 107			Sign	Date/Time	570	IVI	atrix *			
Relinquished By			<del>\J</del>		Date/Time		ELIC DOLL Received By	lon En1	del	/-27-67 Date/Time	S SE SO SL W	= Soil = Sediment = Solid = Sludge = Water	DI. : T : WI :	= Drum Solid = Drum Liqui = Tissue = Wine = Liquid		
Relinquished By	7				Date/Time	=	Received By			Date/Time	Ö A	= Oil = Air	V	= Vegetation = Other		
Relinquished By	7				Date/Time		Received By			Date/Time	I					
*****		37.3	I/ P		11				. 15		·····			•		
FINAL SAM		Method	a (e.g., Return to	customer, per	lab procedure, use	dure, used in process) Disposed By						Date/Time				

PNNL TIAZ 30163 WO 5099
Due 03.08.07

# CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.#

A07-001-17

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Dru	e 03.08	8-0	7									Page	<u>1</u> of	1	
Collector	Fluor					Contact/Re			Telepho		MSI	N F	AX		
SAF No.	K.B.				_	Dot Stew Sampling (				76-5056 • Order/Ch	arge Code				
A07-001					14.4	Hanford									
Project Title LLWMA(4)-PA.	IANIIIADW 20	107							Ice Ches	t No.		Temp.		ĺ	
Shinned To (Lab)		<i>10 1</i>				Method of	Shipment	,	Bill of L	ading/Air I	ling/Air Bill No.				
Severn Trent Inc	cornorated. Ric	hland				Govt. Ve				<del>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</del>					
Protocol Other							Prio	rity: 45 Days	Offsite P	Offsite Property No.					
POSSIBLE SAMP  ** ** Contains Rac releasable per DOE Or	dioactive Materia	l at cor	centrations that	are not regulate	ed for transpo	ortation per 49	CFR but are not	SPECIAL INSTRUCTIONS All Labs except WSCF: Batch all F closure of 14 days. WSCF: Batch all PNNL GW samp			I, S, and W 07	tivity Exempt SAFs into one	ion: Yes 🗹 SDG, not to exc	No Leed SDG	
Sample No.	Lab ID	*	Date	Time	No/Type	Container		Sample Ar	nalysis				Preservative	THE PERSON NAMED IN COLUMN	
B1LN38		W	1/22/02	1044	1x20-mL	Р	Activity Scan			No	one				
B1LN38		W	1,/	7 ,	2x4000-i	nL G/P	I129LL_SEP_LEP	S_GS_LL: I-129 (1)		No	ne				
B1LN38						LP	TC99_ETVDSK_L	SC: Tc-99 (1)		HCl to pH <2					
B1LN38						nL P	906.0_H3_LSC: T			ne					
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Relinquished By Flu K.	or Hanford <sup>int</sup> B. HULSE	<u> </u>	Zele Sign JA	N 2 2 1	2007 <sup>Pate/</sup>	1570	Received By  ELIC DEMOS	Print Sign En Dy		ite/Time /		= Soil	atrix *	Dram Solid	
Relinquished By					Date/	Γime	Received By	D	Da	ite/Time	SO = SL =	= Sediment = Solid = Sludge = Water	T = 1 WI =	Drum Liaui Tissue Wine Liauid	
Relinquished By					Date/	Time	Received By		Da	ite/Time	0 =	= Oil = Air	V =	Vegetation Other	
Relinquished By					Date/	Гіте	Received By	and the second state of th	Da	ite/Time	L				
FINAL SAMPL		Method	(e.g., Return to	customer, per l	lab procedure	, used in proc	ess)	Disposed By				Date/T	ime	*****	

PNNLJ	TAR	50163
	due	03.08-07

A07-001-25

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST of <u>1</u> Collector Contact/Requester Telephone No. **MSIN** FAX Fluor Hanford D. E. PAROLIEN Dot Stewart 509-376-5056 SAF No. Sampling Origin Purchase Order/Charge Code A07-001 Hanford Site Project Title Ice Chest No. Temp. HWF-N-506-3 LLWMA(4)-PA, JANUARY 2007 Shinned To (Lab) Method of Shipment Bill of Lading/Air Bill No. Severn Trent Incorporated, Richland Govt. Vehicle Protocol Offsite Property No. Priority: 45 Days Other POSSIBLE SAMPLE HAZARDS/REMARKS SPECIAL INSTRUCTIONS Total Activity Exemption: Yes V No **Hold Time** \*\* \*\* Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not All Labs except WSCF: Batch all PNNL samples submitted under A. G. I. S. and W 07 SAFs into one SDG, not to exceed SDG releasable per DOE Order 5400.5 (1990/1993) closure of 14 days. WSCF: Batch all PNNL GW samples submitted into one SDG, daily closure. Sample No. Lab ID Date Time No/Type Container Sample Analysis Preservative B1LN42 W -22-0 Activity Scan 1139 1x20-mL P None W 1129LL SEP LEPS GS LL: I-129 (1) B1LN42 2x4000-mL G/P None TC99\_ETVDSK\_LSC: Tc-99 (1) B1LN42 W 1x500-mL P HCI to pH <2 **B1LN42** W 1x1000-mL P 906.0 H3 LSC: Tritium (1) None UTOT KPA: Uranium (1) **B1LN42** W 1x500-mL G/P HNO3 to pH <2 Jm740 JAN 2 2 2007 Date/Time (570 Relinquished By Received By Print Matrix \* Sign Sign Fluor Hanford D E PARCHE = Soil DS = Drim Solid SF. = Sediment DL = Drum Liqui Relinquished By Date/Time Date/Time SO = Solid = Tissue = Wine SL. = Sludge w = Water = Lianid Date/Time Relinquished By Received By Date/Time O = Oil = Vegetation = Air X = Other Relinquished By Date/Time Received By Date/Time FINAL SAMPLE Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time DISPOSITION

PNNL J7A 230/63 W05099	
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PNNLO //	10050	99			CHAIN	OF (	CUSTODY/	SAMPL1	E ANALYS	SIS RE	EQUEST	1		A07-001-26	
PNNL //	de	ul	3-08-0	07									Pag	ge <u>1</u> of <u>1</u>	
Collector 💆 🚾 🕬	SATTR BITLE		***************************************		C	ontact/Re					elephone No.		MSIN	FAX	
SAF No.	····				Se					509-376-5056 rchase Order/Charge Code					
A07-001			*********			Hanford	ard Site					-			
Project Title LLWMA(4)-PA.	IANIIIADV 20	007				LNE	NG-\$6-506 3 Ice				Ice Chest No.				
Shinned To (Lab)	MINUART 20	<i>JU 1</i>					Shipment	-			ll of Lading/A	<del></del>			
Severn Trent Inco	ornorated Ric	bland				Govt. Ve	hicle				***************************************				
Protocol Other							Pric	ority: 45 Days	;	0	ffsite Property	No.			
POSSIBLE SAMP ** ** Contains Rad eleasable per DOE Ord	ioactive Materia	l at cor	centrations that	t are not regula	ited for transporta	ation per 49	CFR but are not	All Labs excep closure of 14 d		=	ubmitted under A	G, I, S, and		nption: Yes V No Lesses No Lesses SDG, not to exceed SDG	
Sample No.	Lab ID	*	Date	Time	No/Type C	ontainer			Sample Analy	ysis				Preservative	
B1LN43		W	1-22-07	9800	1x20-mL F	>	Activity Scan					None		*	
B1LN43		W	f	1	2x4000-ml	_ G/P	I129LL_SEP_LEP	S_GS_LL: I-1	29 (1)			None	,		
B1LN43		w			1x500-mL	Р	TC99_ETVDSK_L	SC: Tc-99 (1)				HCl to pl	1 <2		
B1LN43		w		<del>                                     </del>	1x1000-mL	- P	906.0_H3_LSC: T		WHILE		None				
B1LN43		l w			1x500-mL	G/P	UTOT_KPA: Uran				HNO3 to pH <2				
							<del></del>		William was a second and a second a second and a second a						
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Relinquished By	Print	2	Sign	\		1 30 -	Received By	Print	E. Dw	, 9/	Date/Time N 2 2 20			Matrix *	
Relinquished By		<u> </u>			JAN Z Z Date/Tin		ERIZ Day Received By	264	L. I dw		Date/Time	5	S = Soil SE = Sediment SO = Solid SI = Sludge W = Water	DS = Drum Sol DL = Drum Lio T = Tissue WI = Wine L = Liquid	
Relinquished By					Date/Tin	ne	Received By				Date/Time	W = Water I. = Liquid			
Relinquished By	***************************************				Date/Tir	ne	Received By			W.L.	Date/Time		***************************************	100 TO THE TOTAL THE TOTAL TO T	
FINAL SAMPLE		Method	l (e.g., Return to	o customer, per	r lab procedure, u	sed in proce	ess)		Disposed By				Date	e/Time	



# Sample Check-in List

Cli	ent: PNL SDG #: WO	5099 NA() SAFH. A07-00 ( NA()
	Steel Humoci. 977 20149	Chain of Cucioda # 107
2111	The same that compared the compared to the com	Air Bill #
1. 2.	Custody Seals on shipping container intact Custody Seals dated and signed?	NA[] Yes [NO[]
3.	· ·	NA[] Yes[TNO[]
	Chain of Custody record present?	
4.	Cooler temperature: NA W 5	Vermiculite/packing more in the second
6.	Number of samples in shipping container:_	S Wei [ Dry [ ]
7. 8.	Sample holding times exceeded?  Samples have:	NA MYes () No ()
9.	tapecustody seals : Samples are:	hazard labels appropriate samples labels
10.	Sample pH taken?  NA() pH<2	leaking.  have air bubbles  (Only for samples requiring head space)  pH>2[] pH>9[]
11.	Sample Location, Sample Collector Listed? *For documentation only. No corrective acti	on needed. Yes (4) No (1)
13.	Were any anomalies identified in sample rece	ip(? Yes[] Not
	Custodian: Eure Duby	Date: 1/22/07 1570
UII	ent Sample ID Analysis Requested	Condition Comments/Action
lient Ln	formed onby	Person contacted
) No a	ection necessary; process as is.	and the second s
nient ki	lanager	

PNNL J	7A23	1025 0509	9
	Due	03.0	9.00

C.O.C.# W07\_011\_574

	~ W05	09	7		CHAI	NUF	COSTODAY	SAMPLE ANAI	LYSIS R	<b>EQUEST</b>		. **	U / <b>-</b> U 1 1	-3/4	
	Due 03	3.09	9.07									Page	<u>1</u> of	1	
	Fluor Hanford					Contact/Re				<b>Telephone No.</b> 509-376-5056	MSI	N FA	X		
SAF No. W07-011	<del>7. D. 1101.DE</del>					Sampling (	Origin Purchase Ord				er/Charge Code				
Project Title		***************************************				Hanford	1NF - N - 506 - 4 Ice Chest No.				TJ-Z Temp.				
RCRA, NO Shinned To (1	VEMBER 2006 .ab)						f Shipment Bill of Lading/								
Severn Tren Protocol	nt Incorporated, Ric	hland				Govt. Ve	ehicle Om:								
RCRA							Pric	ority: 45 Days		Offsite Property	No.				
** ** Contair	AMPLE HAZARI is Radioactive Materia DE Order 5400.5 (199	al at cor	ncentrations that	t are not regula	ted for transp	ortation per 49	CFR but are not	SPECIAL INSTRUCTION All Labs except WSCF: Batch closure of 14 days. WSCF: Batch all PNNL GW s	all PNNL sample		G, I, S, and W 07 S	ivity Exemptic SAFs into one S	on: Yes 🗹	Noceed SDG	
Sample N	o. Lab ID	*	Date	Time	No/Type	Container		Sampl	e Analysis				Preservative		
B1L6H6		W	1/23/7	1036	1x20-mL		Activity Scan				None				
B1L6H6		W	4	V	1x500-m	L P	9223_COLIFORM	: Coliform (1)			Na2S2O3 Cool	4C			
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	uor Hannord —	/	Sign	2 2 2 5 <i>0</i> 1		Γime / (	Received By	H Print ( Sig	jan 23	Date/Time /		Ma	trix *		
Relinquished B	B. HULSE	<u>VI JE</u>	Valse_	JAN Z	3 2007 Date/		Received By	L Domitie	iuia E O i	Date/Time	SO = SL =	Sediment Solid Sludge	DI. = T = WI =	Drum Solid Drum Liqui Tissue Wine	
Relinquished B	y				Date/	Гime	Received By			Date/Time	O =	Water Oil Air	V =	Liquid Vegetation Other	
Relinquished B	у				Date/	Гіте	Received By		-	Date/Time	······································	***************************************		***************************************	
FINAL SAN DISPOSIT		Method	(e.g., Return to	customer, per	lab procedure	e, used in proce	ess)	Disposed B	y			Date/Tir	ne		

PNNL V	7A230 W05 Due	25 U9 03	9 9 0	7	CHAI	V OF	CUSTODY/	SAMPLE ANAL	YSIS R	EQUEST	1		W07-011.	
Collector Fluor F K.B.H	ianford LUSE	7151111	1	/	-		t/Requester Telephone No.					Page 1 of 1           MSIN FAX		
SAF No.		***************************************			S	Dot Stew Sampling C	Origin Purchase Order/							
W07-011 Project Title		***				Hanford					Temp.			
RCRA, NOVEM Shinned To (Lab)			***************************************		7		HNF-N-SOG-Y  f Shipment  Bill of Lading/A							
Severn Trent Inc		hland				Govt. Ve								
Protocol RCRA			****				Pric	ority: 45 Days		Offsite Property				
** ** Contains Rac releasable per DOE On	dioactive Materia	ıl at co	ncentrations that	t are not regula	ted for transpor	rtation per 49	CFR but are not	SPECIAL INSTRUCTIONS All Labs except WSCF: Batch all closure of 14 days. WSCF: Batch all PNNL GW sam	PNNL sample		G, I, S, and V	al Activity Exer W 07 SAFs into c	nption: Yes 🗹	No Leed SDG
Sample No.	Lab ID	*	Date	Time	No/Type (	Container		Sample A	malysis				Preservative	
B1L6J0		W	1/23/7		1x20-mL		Activity Scan				None			
B1L6J0		W	<u> </u>	V	1x500-mL	- P	9223_COLIFORM	: Coliform (1)			Na2S2O3	Cool 4C		
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	111111111111111111111111111111111111111							Jm8	'VO					
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022	n ford	.1	<b>1</b>		L	1405		HI Control of the Con		<u></u>	11105			
Relinquished By	JLSE Print	2/1.	Sign Lsc	JAN 2	Date/Ti 3 2007	ime l	Received By	Print Sign	JAN 2	3 2007	S	= Soil	Matrix *	Drum Solid
Relinquished By	<del></del>	,		1602	Date/Ti	ime	Received By	**************************************		Date/Time	SI SC SI W	<ul> <li>E = Sediment</li> <li>O = Solid</li> <li>L = Sludge</li> </ul>	DI, = 1 T = 7 WI = 7	Drum Liaui Tissue Wine
Relinquished By			200.0		Date/Ti	ime	Received By			Date/Time	O A	= Oil	V = '	Liquid Vegetation Other
Relinquished By				10.40000	Date/Ti	ime	Received By	**************************************		Date/Time		· w + iii		

FINAL SAMPLE Disposal Method DISPOSITION

Disposal Method (e.g., Return to customer, per lab procedure, used in process)

Disposed By

Date/Time

PNNLJ7	42305 12050	99	7		CHAIN OF	CUSTODY/	SAMPLE ANALYSIS	C.O.C.# W07-011-546				
d	tue 03.	-07-	07	***************************************						Page <u>1</u> of <u>1</u>		
Collector Fluor Ha K. B. HL	ILSE				Contact/Re			Telephone No. MSIN FAX 509-376-5056				
SAF No. W07-011					Sampling (	)rigin		Purchase Order/Charge Code				
Project Title RCRA, NOVEM	BER 2006				H	HF- N-5	06-4	Ice Chest No. 71 Z Temp.				
Shinned To (Lab) Severn Trent Inc		chland			Method of Govt. Ve			Bill of Lading/Air Bill No.				
Protocol RCRA		LOCATION OF THE PARTY OF THE PA				Pri	ority: 45 Days	Offsite Property No.				
** ** Contains Rac releasable per DOE On	lioactive Materia	al at cor	ncentrations that	are not regula	ted for transportation per 49	CFR but are not	SPECIAL INSTRUCTIONS H All Labs except WSCF: Batch all PNNL sar closure of 14 days. WSCF: Batch all PNNL GW samples submi		, G, I, S, and W 07 SAI	itv Exemption: Yes 🗹 No 🗔 Fs into one SDG, not to exceed SDG		
Sample No.	Lab ID	*	Date	Time	No/Type Container		Sample Analysis			Preservative		
B1L6D8		W	1/23/7	0901	1x20-mL P	Activity Scan	100000		None			
B1L6D8		W	¥	*	1x500-mL P	9223_COLIFORM	C					
	-	ļ										
		<del> </del>					JM8VZ					
	<b> </b>								<u> </u>			
		<b>†</b>					A milkelika a manana ana a wasan a mina	Annikus var andre		***************************************		
		T										

Date/Time / 40 S

Date/Time

Date/Time

Date/Time

JAN 2 3 2007

Disposal Method (e.g., Return to customer, per lab procedure, used in process)

Received By

Received By

Received By

Received By

Print ,

Sign

Disposed By

JAN 2 3 2007

Relinquished Paraford

Relinquished By

Relinquished By

Relinquished By

FINAL SAMPLE

DISPOSITION

K B. HULSE

Date/Time /405

Date/Time

Date/Time

Date/Time

S SE

= Soil = Sediment

SO = Solid SI = Sludge W = Water O = Oil

= Water = Oil = Air

Matrix \*

Date/Time

V X

DS = Drum Solid

= Tissue WI = Wine

= Other

= Drum Liqui

= Liquid = Vegetation



Sample Check in List

Date/Time Received: 01 23.07 1405

Client: +	SDG III WOS	SDG #: WOSD99 NAIL SAE # 120-7-011
Work Order Numbe	Work Order Number (77,4230259	Chain of Custody # 6007-011-5710 For File
Shipping Container ID:	ID:	Air Bill #
Custody Se	Custody Seals on shipping container intact?	e de de la companya d
2. Custody Se	Custody Seals dated and signed?	NA [] Yes [X No []
<ol> <li>Chain of C</li> </ol>	Chain of Custody record present?	
4. Cooler température:	NA V	ermiculite/mack.com
6. Number of	ner	Mei [1517]
7. Sample hold	Sample holding times exceeded?	
8. Samples have:	ve:	NA Xes () No ()
lape		
0 custoc	_custody seals .	appropriate samples labels
oamp	les are: .in good condition	
broken	٠	———leaking. ———have air bubbles
10. Sample pH taken?	aken? NA() pH<2()	) pH>2 M pH>0.1.1
Sample Loca *For docume	Sample Location, Sample Collector Listed? * *For documentation only. No corrective action needed	`
12. Were any and	Were any anomalies identified in sample receipt?	:
13. Description o	Description of anomalies (include sample numbers):	Yes () No M
	7 7 .	
Sample Custodian:	D. Sm. 4	Date: 07.23.07 140
Client Sample 1D	Analysis Requested	
		Comments/Action
Client Informed on	by	
No action necessary; process as is.	process as is.	
roject Manager		
S-023, 9/03, Rev. 5		Date

PNNLJJA:	230265 )05099 03:09:07
n U	105099
due	03.09.07

	wo5	09	9		CHAIN (	OF CUSTODY	SAMPLE ANALYS	SIS REQUEST		507-012-588		
d	Jul 03.	09	.07						·	Page <u>1</u> of <u>1</u>		
Collector	Fluor Hanfoi		•			tact/Requester ot Stewart		<b>Telephone No.</b> 509-376-5056	MSIN	FAX		
SAF No. S07-012	F. M. HALL				Sam	ording Origin anford Site	- The state of the	Purchase Order/O	Charge Code			
Project Title	EMBER 2006					HWF -N-	506 3	Ice Chest No.	9 -06 -8 Temp.			
Sh <u>inned To (L</u> e	ah)	CONTROL NATIONAL STREET				hod of Shipment		Bill of Lading/Air				
Protocol	t Incornorated. Ric	chland		Merron (1000) (1000)		ovt. Vehicle	ority: 45 Days	Offsite Property 1	No.			
** ** Contains	MPLE HAZARI s Radioactive Materi E Order 5400.5 (199	al at co	ncentrations that	are not regula	ted for transportatio	on per 49 CFR but are not	SPECIAL INSTRUCTIONS All Labs except WSCF: Batch all PNI closure of 14 days. WSCF: Batch all PNNL GW samples	•	G, I, S, and W 07 SAI	ity Exemption: Yes V No L Fs into one SDG, not to exceed SDG		
Sample No	o. Lab ID	*	Date	Time	No/Type Cont	tainer	Sample Anal	ysis		Preservative		
B1LBT8		W	1-23-07	1332	1x20-mL P	Activity Scan			None			
B1LBT8		W	7	1	3x1000-mL F	P TRITIUM_ELECT	Γ_LSC_LL: H-3 (1)		Vone			
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Relinquished By FIGH F. M. H Relinquished By	anford S	Ž,	Sign	JA	Date/Time N 2 3 200 Date/Time	Received By Received By Received By	Print Sign  Less ERic Darelry	JAN 2 3 200 Date/Time	S = S SE = S SO = S	Sediment DL = Drum Liqui Solid T = Tissue		
Relinquished By	′			· · · · · · · · · · · · · · · · · · ·	Date/Time				SI. = Shudge WI = Wine W = Water I. = Liquid			
Relinquished By	/				Date/Time	Received By		Date/Time	L			
FINAL SAM DISPOSITI		Method	l (e.g., Return to	customer, per	lab procedure, used	1 in process)	Disposed By			Date/Time		

PNNL J7A230265
W05099
Dun 13.09.07

PNNL //	<i>₩05</i> 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	099	7		CHAI	N OF	CUSTODY	SAMPI	E ANAI	LYSIS I	REQUEST	1		S07-012	-538
aOus	03.0	9.0	7										Pag	e <u>1</u> of	1
			•			Contact/Re Dot Stew	equester				Telephone No.	N	ISIN	FAX	
SAF No. F. M	A. HALL	AVERUAL STATE OF THE STATE OF T				Sampling (	)rigin				509-376-5056 Purchase Order	Charge Cod	e		
Project Title SURV, DECEM	DED 2006					Hanford Hw	F - W - 50	G 3		Company of the Compan	Ice Chest No.	- P.C 4	Temp.		
Shinned To (Lab)		NAME OF THE OWNER, WHEN			niannihrjo(1920000011500000000000000000000000000000	Method of					Bill of Lading/A	ir Bill No.	<i></i>		
Severn Trent Inc	cornorated. Ric	hland	kinterioripi pipikanni konsujerponi systeme popi	With the second second second second	NORTH CONTRACTOR CONTR	Govt. Ve	hicle								
SURV		*******					Pri	ority: 45 Dag	ys		Offsite Property	No.			
** ** Contains Rac releasable per DOE On	lioactive Materia	l at cor	ncentrations that	are not regula	ted for transp	ortation per 49	CFR but are not	All Labs exc closure of 14	days.	all PNNL samp	d Time les submitted under A ed into one SDG, daily	, G, I, S, and W	Activity Exem 07 SAFs into or	iption: Yes 🗹 ne SDG, not to exc	No ceed SDG
Sample No.	Lab ID	*	Date	Time	No/Type	Container			Sample	Analysis		***************************************		Preservative	man and a second
B1LC67		W	1-23-07	1231	1x20-mL	Р	Activity Scan				and and an	None			
B1LC67		W	4	4	3x1000-	nL P	TRITIUM_ELECT	_LSC_LL: H-	3 (1)			None			
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and the second s		<u> </u>							······································				*********		-
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Relinquished By	Print	***************************************	Sion		Data/	Cima a -	Paceived Dy	Print	Sign		Data/Fire	1	**********	3.6	
Fluor Hanf	4		33/		AN 2 3	COPI am	Received By			1400	Date/Time			Matrix *	
Relinquished By			and the	4 1	AN Z : Date/		Received By	z ERI	Dorly		JAN 2 3 20 Date/Time	SE SE	= Soil = Sediment		Drum Solid Drum Liqui
Kemiquisike By				(	Date	inic	Received By				Date/Time	SO SL		T =	Tissue Wine
Relinquished By					Date/	Γime	Received By				Date/Time	W O A	= Water = Oil = Air	ĭ. = V =	Liquid Vegetation Other
													- All		VARIET
Relinquished By					Date/	Time	Received By				Date/Time				
FINAL SAMPL DISPOSITION		Method	(e.g., Return to	customer, per	lab procedure	, used in proce	l ess)		Disposed By	4			Date	/Time	

# EININ STL

Sample Check in List

Cli	ient: PNL	SDG #:_ <u>Û</u>	05099 NATT SAE	H: S07-012 NATI
Wo	ork Order Number	T7A230265	Chain of Curred	S07-012,538,58
Shi	pping Container ID			
1		on shipping container into	Air Bill #	
2.		dated and signed?	IC(),	All Yes [4 No []
3.		•	И	A[] Yes [9 No[]
4.	Citati of Custi	ody record present?		Yes ( No )
	Cooler tempér	ature:NA	5. Vermiculite/packing mat	Yes [ No [ ] erials is NA [ Wei [ ] Dry [ ]
6.		The built container	2	Well [ Dry [ ]
7.	Sample holdin	g times exceeded?	N	4 ( Yes [] No []
8.	Samples have:		(47)	7 () Yes[] No[]
	custody s	eals	— hazard la	ibels
9.	Samples are:		appropri	ate samples labels
10.	oroken		leaking. have air t (Only for sampl	les requiring band
	Sample pH take	· · · · · · · · · · · pm·	(2() pH>2() pH>9	[]
H.	Sample Location *For documenta	n, Sample Collector Listed' tion only. No corrective ac	? * ction needed.	Yes [ No [ ]
12.		lies identified in sample re		
13.			umbers):	Yes ( ) No [
V-Company of the Company of the Comp				
	Custodian:	Ene Donly	Date: //23/	07 1400
CIII	ent Sample 1D	Analysis Requested	Condition	Comments/Action
				Souther MAY A CHOD
lient In	formed on	by	Person contacted	
) No 8	iction necessary; pro	Cess as is	Person contacted	
-	7/03, Rev. 5	and the state of t	Date	2017-14-1

/14/2007 10:44:10	AM		S	Sample Prep	aration/An	alysis		Balanc	e ld:1120482733	Atol			
884868, Pacific North	west National L	_aboratory ,		lpha PrpRC5014		-	Pipet #:						
nalyDueDate: 03/0				Ipha by GPC us : HANFORD	ing Am-241 cu	irve	Sep1 DT/Tm Tech:						
Batch: 7026401	WATER	pCi/L	· · · · · · · · · · · · · · · · · · ·	PM Q	uote: SA , 57	671		Sep2 DT/Tm 1					
SEQ Batch, Test: None		26396 FPS5, 7026401	AZS7, 702640		uoto. 0.1., 0.								
97 1 0 Jan 1 4 11		11	U 00 T				Prep Tech: BockJ						
Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Trac Prep Da		Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:			
JM6JQ-1-AA		110.80g,in											
7A220134-1-SAMP 		~~~~	~	=======================================									
<b>                                  </b>	NOTICE OF THE PROPERTY OF THE	AmtRec: 20	ML,500ML,LP	#Containers: 3			Scr: /	Alpha: 1.33E-03 uCi/Sa	2.0E-01L Beta: 2.	28E-04 uCi/Sa			
2 JM6JQ-1-AE-X		113.40g,in	<u> </u>				****						
7A220134-1-DUP 			*				*************						
01/19/2007 09:09	20000000000000000000000000000000000000	AmtRec: 20	ML,500ML,LP	#Containers: 3			Scr: /	Alpha: 1.33E-03 uCi/Sa	2.0E-01L Beta: 2.	28E-04 uCi/Sa			
JM6JQ-2-AA		1(0.82			36.3	100mi	n 100	2	~ 1 /				
J7A220134-1-SAMP 		(())	~~~~~~~~	***************************************		·	102	> 1943	2/14/02				
01/19/2007 09:09		AmtRec: 20	OML,500ML,LP	#Containers: 3			Scr: /	Alpha: 1.33E-03 Ci/Sa	2.0E-01L Beta: 2.	28E-04 uCi/\$a			
4 JM6JQ-2-AE-X		113.4			37.7		15 (						
J7A220134-1-DUP <b>-                        </b>	8   8  8	· · / · Y		·	* \$	<u> </u>	/SC		·				
01/19/2007 09:09	1000 M	AmtRec: 20	OML,500ML,LP	#Containers: 3			Scr: ,	Alpha: 1.33E-03 uCi/Sa	2.0E-01L Beta: 2.	28E-04 uCi/Sa			
5 JNG09-1-AA-B		202.80g,in											
7A260000-401-BLK 	#    #   #   #    #    #    #    #	~~~~~~	*										
01/19/2007 09:09		AmtRec;	#Co	ontainers: 1			Scr:	Alpha:		Beta:			
6 JNG09-1-AC-C		205.00g,in	ASD4116										
I7A260000-401-LCS III			01/18/07,pd 02/09/06,r										
01/19/2007 09:09		AmtRec:	#Co	ontainers: 1			Scr:	Alpha:		Beta:			
	(1)		N						ANNIHATION				
CANE	tul Hig	91 in Beta											
STL Richland Key	vr. In . Initial Amt	fi - Final Amt, di - Dil	utod Amt of	Son1 o2 Son2	Page 1	ICV I	nsufficient Volu	me for Applysia	\^	VO Cnt: 6			
Richland Wa.		- Reference Dt, ec-Enric				13 4 1	risumcient volui	me for Analysis	V	ICOC v4.8.26			

2/14/2007 10:44:14 AM			Sa	mple	Preparation	/Analysis		Balance Id:1120482733					
			AZ Gross Alp				Pipet #:						
					PC using Am-2	11 curve							
AnalyDueDate: 03/05/			5I CLIENT: H	IANFOR	ט			Sep1 DT/Tm 1	ech:				
Batch: 7026401 SEQ Batch, Test: None	i	oCi/L						Sep2 DT/Tm 7	ech:				
				1			Prep Tech: ,BockJ						
Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Trace Prep Date	r [	Dish Ppt o Size Geome	Count	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments			
Comments: JM6JQ-SA	MP "Comments. Ali	iquots reduced d	lue to weight scr	een activi	ity. JB 02/02/07"			<u> </u>					
			Ü										
								·					
ll Clients for Batch: 384868, Pacific No		1 Inhoratore	Projei	a North	rost National	Lab, SA, 576	~ 4						
304000, FACILIE NO	ichwest Nationa	I Laboratory	Pacifi	C NOTCH	west National	LaD, SA , 5/6	/1						
M6JQ1AA-SAMP Constitu	ont lict.								***************************************				
ALPHA RDL:3	pCi/L	LCL:	UCL:	RPD:									
ALPHA RDL:3	pCi/L	LCL:	UCL:	RPD:									
Am-241 RDL:	pCi/L	LCL:70	UCL:130	RPD:	20								
M6JQ1AA-SAMP Calc Inf													
Uncert Level (#s)	.: 2 Decay	to SaDt: Y	Blk Subt.	: N	Sci.Not.: Y	ODRs: B							
Uncert Level (#s)	.: 2 Decay	to SaDt: Y	Blk Subt.	: N	Sci.Not.: Y	ODRs: B							
Uncert Level (#s)	.: 2 Decay	to SaDt: Y	Blk Subt.	: N	Sci.Not.: Y	ODRs: B							
					Apr	roved By			Date:				

STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2 ISV - Insufficient Volume for Analysis

WO Cnt: 6

### 2/2/2007 9:23:36 AM Sample Preparation/Analysis Balance Id:1120482733 384868. Pacific Northwest National Laboratory . BC Gross Beta PrpRC5014 Pipet #: 23< Pacific Northwest National Lab S8 Gross Beta by GPC using Sr/Y-90 curve AnalyDueDate: 03/05/2007 5I CLIENT: HANFORD Sep1 DT/Tm Tech: Batch: 7026402 WATER PM, Quote: SA, 57671 pCi/L Sep2 DT/Tm Tech: SEQ Batch, Test: None Prep Tech: ,BockJ / APA Work Order, Lot. Total Initial Aliquot QC Tracer Dish Ppt or Count Detector Count On | Off CR Analyst, Comments: Sample DateTime Amt/Unit Amt/Unit Prep Date Size ld Geometry Time Min (24hr) Circle Init/Date 1 JM6JQ-1-AC 125.10g,in 100 17.7.1 MA J7A220134-1-SAMP 01/19/2007 09:09 AmtRec: 20ML.500ML.LP #Containers: 3 Scr: Alpha: 1.33E-03 uCi/Sa 2.0E-01L Beta: 2.28E-04 uCi/Sa 2 JM6JQ-1-AF-X 125.10a.in 116.4 NB J7A220134-1-DUP 01/19/2007 09:09 AmtRec: 20ML.500ML.LP #Containers: 3 Scr: Alpha: 1.33E-03 uCi/Sa 2.0E-01L Beta: 2.28E-04 uCi/Sa 3 JNG1A-1-AA-B 200.30a.in DU. 0.2 J7A260000-402-BLK AmtRec: Scr: 01/19/2007 09:09 #Containers: 1 Alpha: Beta: BESB2996 4 JNG1A-1-AC-C 200.20q,in 0.4 01/23/07.pd J7A260000-402-LCS 08/08/06.1 01/19/2007 09:09 AmtRec: #Containers: 1 Alpha: Beta: Comments: aliquots reduced due to weight screen activity: 3 2-2-07 PH (2.0 \$ 2-2-01 10% colladion added to ea. samp. 2/13/07 APA All Clients for Batch: 384868. Pacific Northwest National Laboratory Pacific Northwest National Lab. SA . 57671 JM6JQ1AC-SAMP Constituent List: RPD: BETA RDL:4 pCi/L LCL: UCL: JNG1A1AA-BLK: pCi/L RPD: BETA RDL:4 LCL: UCL: JNG1A1AC-LCS: pCi/L LCL:70 UCL:130 RPD:20 Sr-90 RDL: JM6J01AC-SAMP Calc Info: STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 WO Cnt: 4 Page 1 ISV - Insufficient Volume for Analysis Prep\_SamplePrep v4.8.26 pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Richland Wa.

### 2/9/2007 2:21:39 PM Sample Preparation/Analysis Balance Id:1120482733 384868, Pacific Northwest National Laboratory . CL Sr-90 Prp/SepRC5006(5071) Pipet #: Pacific Northwest National Lab TL Sr-85 by Nal and Sr-90 by GPC 7 day ingrowth **5I CLIENT: HANFORD** Sep1 DT/Tm Tech: 02/02/2007 16:21, ManisD AnalyDueDate: 03/05/2007 Batch: 7026384 PM, Quote: SA, 57671 WATER pCi/L Sep2 DT/Tm Tech: 02/09/2007 08:45, Manis D SEQ Batch, Test: None Prep Tech: .BockJ Work Order, Lot. Initial Aliquot QC Tracer Total Tracer Dish Ppt or Count Detector Count On | Off CR Analyst, Comments: Sample DateTime Amt/Unit Amt/Unit Prep Date Yield Size Geometry Time Min (24hr) Circle Init/Date ld 26 1059 1 JM5M9-1-AA 1003.50a.in srtb14462 1.0 22.9 100 01/24/07.pd J7A200173-1-SAMP 09/11/06,r 1012 01/18/2007 12:54 AmtRec: 20ML 3XLP #Containers: 4 Alpha: 1.24E-04 uCi/Sa Beta: -1.83E-04 uCi/Sa 2 JM7PP-1-AA 1000.60q,in srtb14463 1.0 23.1 100 20 1059 01/24/07.pd J7A230125-1-SAMP 09/11/06,r 012 01/22/2007 13:25 AmtRec: 20ML,3XLP #Containers: 4 Scr: Alpha: -3.42E-04 uCi/Sa Beta: 3.82E-04 uCi/Sa 2/10/07 2 3 JM71V-1-AA 1059 1006.20g,in srtb14464 1.0 23.5 100 01/24/07.pd J7A230129-1-SAMP 09/11/06,r 1012 01/22/2007 12:53 AmtRec: 20ML,3XLP #Containers: 4 Alpha: -3.23E-04 uCi/Sa Beta: 2.40E-04 uCi/Sa 2110 107 1 4 JM71V-1-AC-X 1059 1007.40q.in srtb14465 1.0 24.7 100 01/24/07,pd J7A230129-1-DUP 09/11/06,r 012 01/22/2007 12:53 AmtRec: 20ML,3XLP #Containers: 4 Scr: Alpha: -3.23E-04 uCi/Sa Beta: 2.40E-04 uCi/Sa STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1 ISV - Insufficient Volume for Analysis WO Cnt: 4 Prep\_SamplePrep v4.8.26 pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Richland Wa.

### 2/9/2007 2:21:41 PM Sample Preparation/Analysis Balance Id:1120482733 384868, Pacific Northwest National Laboratory, CL Sr-90 Prp/SepRC5006(5071) Pipet #: Pacific Northwest National Lab TL Sr-85 by Nal and Sr-90 by GPC 7 day ingrowth 51 CLIENT: HANFORD Sep1 DT/Tm Tech: 02/02/2007 16:21, ManisD AnalyDueDate: 03/05/2007 Batch: 7026384 WATER pCi/L PM, Quote: SA, 57671 Sep2 DT/Tm Tech: 02/09/2007 08:45.ManisD SEQ Batch, Test: None Prep Tech: .BockJ Work Order, Lot. Total Initial Aliquot QC Tracer Tracer Dish Ppt or Count Detector Count On I Off CR Analyst. Comments: Sample DateTime Amt/Unit Amt/Unit Prep Date Yield Size Geometry Time Min ld (24hr) Circle Init/Date 36 1059 5 JM72X-1-AA 1005.10a,in srtb14466 1.0 24.4 100 2/10/07 X 01/24/07,pd J7A230129-2-SAMP 09/11/06,r 35 012 01/22/2007 12:53 AmtRec: 20ML,3XLP #Containers: 4 Alpha: -5.70E-04 uCi/Sa Beta: 2.40E-04 uCi/Sa 6 JNGX3-1-AA-B 1059 1000.40a.in srtb14467 1.0 23.9 100 01/24/07,pd J7A260000-384-BLK 09/11/06,r 1012 01/22/2007 12:53 AmtRec: #Containers: 1 Scr: 7 JNGX3-1-AC-C 999.20a.in 23.7 srsq1310 1.0 100 1059 12/20/06,pd J7A260000-384-LCS 09/11/06,r 1012 01/22/2007 12:53 AmtRec: Scr: #Containers: 1 Alpha: Beta: Comments: All Clients for Batch: 384868, Pacific Northwest National Laboratory Pacific Northwest National Lab, SA, 57671 JM5M91AA-SAMP Constituent List: Sr-85 RDL: pCi/L LCL:20 UCL:105 RPD:20 Sr-90 RDL:2 pCi/L LCL:70 UCL:130 RPD:20 STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2 ISV - Insufficient Volume for Analysis WO Cnt: 7 Prep SamplePrep v4.8.26 pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Richland Wa.

### 2/15/2007 12:26:40 PM Sample Preparation/Analysis Balance Id:1120482733 384868, Pacific Northwest National Laboratory . BN I-129 Prp/SepRC5025 Pipet #: Pacific Northwest National Lab TB Gamma by LEPD 5I CLIENT: HANFORD AnalyDueDate: 03/05/2007 いっちつつく Sep1 DT/Tm Tech: Batch: 7026400 WATER pCi/L PM. Quote: SA . 57671 Sep2 DT/Tm Tech: SEQ Batch, Test: None Prep Tech: .BockJ Work Order, Lot. Total Initial Aliquot **QC** Tracer Dish Ppt or CR Analyst, Count Detector Count On I Off Comments: Sample DateTime Amt/Unit Amt/Unit Prep Date Size Geometry Time Min ld (24hr) Circle Init/Date 2121107 R 1 JM6FX-1-AA 3954.10g,in ITA6013 1(014 700 371 01/17/07 J7A220119-1-SAMP 01/19/2007 13:21 AmtRec: 20ML.2X4LP #Containers: 3 Scr: Alpha: -1.62E-03 uCi/Sa Beta: 1.39E-03 uCi/Sa 2 JM731-1-AA 3917.60a.in ITA6014 35.9 01/17/07 J7A230163-1-SAMP 01/22/2007 13:25 AmtRec: 20ML.500ML.2X4LP #Containers: 4 Scr: Alpha: 1.70E-04 uCi/Sa Beta: -1.02E-03 uCi/Sa 619 3 JM731-1-AE-X 3902.40q.in ITA6015 35.1 01/17/07 J7A230163-1-DUP AmtRec: 20ML.500ML.2X4LP #Containers: 4 Alpha: 1.70E-04 uCi/Sa Beta: -1.02E-03 uCi/Sa 4 JM738-1-AC 3919.00a,in ITA6016 37.0 LA 01/17/07 1805 J7A230163-2-SAMP 01/22/2007 12:05 AmtRec: 20ML,500ML,LP,2X4LP #Containers: 5 Scr: Alpha: -7.69E-04 uCi/Sa Beta: 1.77E-03 uCi/Sa 5 JM74E-1-AC 3909.90q,in ITA6017 1809 14 36.2 01/17/07 J7A230163-3-SAMP 01/22/2007 10:44 AmtRec: 20ML.500ML.LP.2X4LP #Containers: 5 Scr: Alpha: 9.34E-04 uCi/Sa Beta: -1.25E-03 uCi/Sa 1811 6 JM740-1-AC ITA6018 3842.40a.in 01/17/07 J7A230163-4-SAMP 01/22/2007 11:39 AmtRec: 20ML.2X500ML.LP.2X4LP #Containers: 6 Scr: Alpha: 1.05E-03 uCi/Sa Beta: 1/15E-03 uCi/Sa 7 JM742-1-AC 3824.40g,in ITA6019 1456 01/17/07 J7A230163-5-SAMP 01/22/2007 08:00 AmtRec: 20ML.2X500ML.LP.2X4LP #Containers: 6 Scr: Alpha: -6.13E-04 uCi/Sa Beta: 4.47E-04 uCi/Sa STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1 ISV - Insufficient Volume for Analysis WO Cnt: 7 Prep\_SamplePrep v4.8.26 pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Richland Wa.

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Page 2

### 2/1/2007 11:10:02 AM Sample Preparation/Analysis Balance Id:1120482733 384868, Pacific Northwest National Laboratory, FP Tc-99 Prp/SepRC5065 Pipet #: Pacific Northwest National Lab S5 Technetium-99 by Liquid Scint **5I CLIENT: HANFORD** Sep1 DT/Tm Tech: AnalyDueDate: 03/05/2007 Batch: 7026396 WATER PM, Quote: SA, 57671 pCi/L Sep2 DT/Tm Tech: SEQ Batch, Test: None Prep Tech: .BockJ Work Order, Lot, Adj Aliq Amt Total Amt Total Initial Aliquot QC Tracer Count Detector Count On I Off CR Analyst, Comments: Sample Date /Unit Acidified/Unit Amt/Unit (Un-Acidified) Prep Date Time Min ld (24hr) Circle Init/Date 1 JM5PC-1-AA 125.20g,in 125.20g 100 J7A200176-1-SAMP 01/18/2007 12:54 AmtRec: 20ML,500ML #Containers: 2 Scr: Beta: -5.39E-05 uCi/Sa Alpha: 5.31E-05 uCi/Sa 2 JM5PE-1-AA 126.30a.in 126.30a J7A200176-2-SAMP 01/18/2007 11:14 AmtRec: 20ML,500ML #Containers: 2 Scr: Alpha: 1.43E-05 uCi/Sa Beta: -4.82E-05 uCi/Sa 3 JM6JQ-1-AD 125.00g,in 125.00g J7A220134-1-SAMP 01/19/2007 09:09 AmtRec: 20ML,500ML,LP #Containers: 3 Scr: Alpha: 1.33E-03 uCi/Sa 2.0E-01L Beta: 2.28E-04 uCi/Sa 4 JM6J2-1-AA 124.90g.in 124.90a J7A220134-2-SAMP 01/19/2007 10:20 AmtRec: 20ML,500ML #Containers: 2 Scr: Alpha: -1.32E-05 uCi/Sa Beta: 2.25E-05 uCi/Sa 125.30g 5 JM7NK-1-AA 125.30q,in J7A230123-1-SAMP 01/22/2007 10:06 AmtRec: 20ML,500MLP #Containers: 2 Scr: Alpha: -7.78E-05 uCi/Sa Beta: 8.69E-05 uCi/Sa 6 JM731-1-AC 126.00g.in 126.00a J7A230163-1-SAMP 01/22/2007 13:25 AmtRec: 20ML,500ML,2X4LP #Containers: 4 Scr: Alpha: 1.70E-04 uCi/Sa Beta: -1.02E-03 uCi/Sa 7 JM731-1-AD-S 126.70g,in 126.70q tcsg1763 01/03/07.pd J7A230163-1-MS 01/10/06,r 01/22/2007 13:25 AmtRec: 20ML,500ML,2X4LP #Containers: 4 Scr: Alpha: 1.70E-04 uCi/Sa Beta: -1.02E-03 uCi/Sa Kev: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 ISV - Insufficient Volume for Analysis WO Cnt: 7 STL Richland Page 1 Prep\_SamplePrep v4.8.26 pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Richland Wa.

## 2/1/2007 11:10:06 AM Sample Preparation/Analysis Balance Id:1120482733 384868, Pacific Northwest National Laboratory, FP Tc-99 Prp/SepRC5065 Pipet #: \_ Pacific Northwest National Lab S5 Technetium-99 by Liquid Scint **5I CLIENT: HANFORD** Sep1 DT/Tm Tech: AnalyDueDate: 03/05/2007 Batch: 7026396 WATER pCi/L PM. Quote: SA . 57671 Sep2 DT/Tm Tech: SEQ Batch, Test: None Prep Tech: ,BockJ Work Order, Lot. Total Amt Total Initial Aliquot Adj Aliq Amt QC Tracer Count Detector Count On I Off CR Analyst, Comments: Sample Date /Unit Acidified/Unit Amt/Unit (Un-Acidified) Prep Date Time Min ld (24hr) Circle Init/Date 8 JM738-1-AD 128.00g,in 128.00g 60 J7A230163-2-SAMP AmtRec: 20ML,500ML,LP,2X4LP #Containers: 5 Scr: Alpha: -7.69E-04 uCi/Sa Beta: 1.77E-03 uCi/Sa 9 JM738-1-AF-X 124.90g.in 124.90a J7A230163-2-DUP 01/22/2007 12:05 AmtRec: 20ML,500ML,LP,2X4LP #Containers: 5 Scr: Alpha: -7.69E-04 uCi/Sa Beta: 1.77E-03 uCi/Sa 10 JM74E-1-AD 125.00g 125.00g,in J7A230163-3-SAMP 01/22/2007 10:44 AmtRec: 20ML.500ML.LP.2X4LP #Containers: 5 Scr: Alpha: 9.34E-04 uCi/Sa Beta: -1.25E-03 uCi/Sa 11 JM740-1-AD 125.00g,in 125.00a J7A230163-4-SAMP 01/22/2007 11:39 AmtRec: 20ML.2X500ML.LP.2X4LP #Containers: 6 Scr: Alpha: 1.05E-03 uCi/Sa Beta: 1.15E-03 uCi/Sa 12 JM742-1-AD 125.70q.in 125.70q J7A230163-5-SAMP 01/22/2007 08:00 AmtRec: 20ML,2X500ML,LP,2X4LP #Containers: 6 Scr: Alpha: -6.13E-04 uCi/Sa Beta: 4.47E-04 uCi/Sa 13 JNG06-1-AA-B 202.10q,in 202.10g J7A260000-396-BLK 01/22/2007 13:25 AmtRec: #Containers: 1 Scr: Alpha: Beta: 14 JNG06-1-AC-C 201,70a,in 201.70a tcse2064 01/24/07,pd J7A260000-396-LCS 01/22/2007 13:25 AmtRec: #Containers: 1 Scr: Alpha: Beta:

STL Richland Richland Wa.

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Page 2

ISV - Insufficient Volume for Analysis

WO Cnt: 14

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26/2007 4:36:56 PM		Sample Pr	eparation/A	nalysis		Balance Id: 134	145
34868, Pacific Northwest National Lacific Northwest National Lab		H-3 Prp/SepRC5007		-		Pipet #:	
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H-3 RDL:40 JNG0E1AC-LCS:	00 pCi/L	LCL: U	CL: RPD:					
H-3 RDL:40 UNG0E1AD-MBLK:	00 pCi/L	LCL:70 U	CL:130 RPD:20					
H-3 RDL:40	00 pCi/L	LCL: UG	CL: RPD:					
STL Richland Key:	: In - Initial Amt, fi - Fi	inal Amt, di - Diluted A	amt, s1 - Sep1, s2 - Sept	2 Page 2	ISV - I	Insufficient Volume for A	Analysis	WO Cnt: 11
Richland Wa.	pd - Prep Dt, r - Refere	ence Dt, ec-Enrichmer	it Cell. ct-Cocktailed Add	=			,	ICOC v4

1/26/2007 4:37:06 PM

Batch: 7026385

SEQ Batch, Test: None

#### Sample Preparation/Analysis

AR H-3 Prp/SepRC5007 S6 Tritium by Liquid Scint

5I CLIENT: HANFORD

Balance Id:

nnce Id: 13445

Pipet #: 2-2-07pm

AnalyDueDate: 03/08/2007

pCi/L

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech:

							Prep Tech:	
Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliqu Amt/Unit	31	Tracer Count o Date Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:
NG0E1AE-MLCS:								
H-3 RDL:400	pCi/L	LCL:70	UCL:130	RPD:20				
NG0E1AF-IBLK:								
H-3 RDL:400	pCi/L	LCL:	UCL:	RPD:				
NG0E1AG-IBLK:								
H-3 RDL:400	pCi/L	LCL:	UCL:	RPD:				
M7381AA-SAMP Calc Int	o:							
Uncert Level (#s)	.: 2 Decay	to SaDt: Y	Blk Subt.:	N Sci.Not.: Y	ODRs: B			
NG0E1AA-BLK:								
Uncert Level (#s)	.: 2 Decay	to SaDt: Y	Blk Subt.:	N Sci.Not.: Y	ODRs: B			
NG0E1AC-LCS:								
Uncert Level (#s)	.: 2 Decay	to SaDt: Y	Blk Subt.:	N Sci.Not.: Y	ODRs: B			
NG0E1AD-MBLK:								
Uncert Level (#s)	.: 2 Decay	to SaDt: Y	Blk Subt.:	N Sci.Not.: Y	ODRs: B			
NG0E1AE-MLCS:								
Uncert Level (#s)	.: 2 Decay	to SaDt: Y	Blk Subt.:	N Sci.Not.: Y	ODRs: B			
NGOE1AF-IBLK:								
Uncert Level (#s)	.: 2 Decay	to SaDt: Y	Blk Subt.:	N Sci.Not.: Y	ODRs: B			
NGOE1AG-IBLK:		t - 0-Dt -	D31- G-1-	N	000 0			
Uncert Level (#s)	.: 2 Decay	to SaDt: Y	Blk Subt.:	N Sci.Not.: Y	ODRs: B			
				App	roved By	· · · · · · · · · · · · · · · · · · ·	Date:	

Page 3

2/19/2007 9:01:36 AM		Sample	Preparation/A	<b>Analysis</b>		Balance Id:112	0482733
384868, Pacific Northwest National Lab Pacific Northwest National Lab	*	INat_Laser PrpR otal Uranium by				Pipet #:	
AnalyDueDate: 03/08/2007		LIENT: HANFOR				Sep1 DT/Tm Tech:	
Batch: 7026383 WATER SEQ Batch, Test: None	ug/L	See a level of the Alexander of the Control of the	PM, Quote: SA ,	57671	ACCOUNT OF THE PARTY OF THE PAR	Sep2 DT/Tm Tech:	
						Prep Tech: ,Bo	ockJ/APA
Work Order, Lot, Sample DateTime Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On   C (24hr) Circle	Off CR Analys	t, Comments:
1 JM740-1-AE	25.40g,in						. I
J7A230163-4-SAMP 01/22/2007 11:39	AmtRec: 20ML,2X5	00ML,LP,2X4LP #Cc	ontainers: 6		Scr:	Alpha: 1.05E-03 uCi/Sa	Beta: 1.15E-03 uCi/Sa
2 JM740-1-AF-S J7A230163-4-MS	24.80g,in	UNSF3577 01/31/07,pd 03/22/05,r					
01/22/2007 11:39	AmtRec: 20ML,2X5	00ML,LP,2X4LP #Co	ontainers: 6		Scr:	Alpha: 1.05E-03 uCi/Sa	Beta: 1.15E-03 uCi/Sa
3 JM742-1-AE **	25.50g,in						
J7A230163-5-SAMP 01/22/2007 08:00	AmtRec: 20ML,2X5	00ML,LP,2X4LP #Co	ontainers: 6		Scr:	Alpha: -6.13E-04 uCi/Sa	Beta: 4.47E-04 uCi/Sa
4 JM742-1-AF-X	27.30g,in				,		
J7A230163-5-DUP 01/22/2007 08:00	AmtRec: 20ML,2X5	00ML,LP,2X4LP #Co	ontainers: 6		Scr:	 Alpha: -6.13E-04 uCi/Sa	Beta: 4.47E-04 uCi/Sa
5 JNGXV-1-AA-B	25.20g,in					A Secretaria Company C	
J7A260000-383-BLK 	AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
6 JNGXV-1-AC-C J7A260000-383-LCS	25.20g,in	UNSF3578 01/31/07,pd 03/22/05,r			V 18 July	A	
01/22/2007 11:39	AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
7 JNGXV-1-AD-C J7A260000-383-LCS	25.30g,in	UNSC1480 01/10/07,pd 04/28/06,r					
01/22/2007 11:39	AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
OTL DIVIN							
STL Richland Key: In - Initial Amt, fi - Richland Wa. pd - Prep Dt, r - Refe	Final Amt, di - Diluted An erence Dt, ec-Enrichment	· · · · · · · · · · · · · · · · · · ·	•	ISV -	Insufficient Volume	for Analysis	WO Cnt: <b>7</b> ICOC v4.8.26

1/26/2007 4:36:46 P	M	***************************************	Sample Pro	eparation/A	nalysis		Balance Id:	
384868, Pacific North Pacific Northwest Nati	nwest National Laborato ional Lab		O SAMPLE PREPAR OLIFORM BY METH		RMED / DIREC	T INJECTION	Pipet #:	
AnalyDueDate: 03/0	09/2007 6050		LIENT: HANFORD	OD 9223		Se	p1 DT/Tm Tech:	
Batch: 7026382	WATER		PM,	Quote: SA,	57671		p2 DT/Tm Tech:	
SEQ Batch, Test: None							Prep Tech:	
Work Order, Lot,	Total	Initial Aliquot	QC Tracer	Count	Detector	Count On Off	CR Analyst,	Comments:
Sample DateTime	Amt/Unit	Amt/Unit	Prep Date	Time Min	Id	(24hr) Circle	Init/Date	Comments.
1 JM8VH-1-AA								
J7A230259-1-SAMP								
01/23/2007 10:36	CONTRACTOR OF THE PROPERTY OF	AmtRec: 20ML,500N	MLP #Containers: 2			Sor:	Alpha:	Beta:
2 JM8V0-1-AA								
J7A230259-2-SAMP	tt 2 i ann wie							
01/23/2007 09:51	CONTRACTOR OF THE PROPERTY OF	AmtRec: 20ML,500N	ILP #Containers: 2			Scr:	Alpha:	Beta:
3 JM8V0-1-AC-X								
J7A230259-2-DUP								
01/23/2007 09:51	Commence of the Commence of th	AmtRec: 20ML,500N	MLP #Containers: 2			Scr:	Alpha:	Beta:
4 JM8V2-1-AA								
J7A230259-3-SAMP	11 5 6 11 5 10 10							
01/23/2007 09:01		AmtRec: 20ML,500M	MLP #Containers: 2			Scr:	Alpha:	Beta:
5 JNGXQ-1-AA-B								
J7A260000-382-BLK								
01/23/2007 09:51	10000000000000000000000000000000000000	AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
6 JNGXQ-1-AC-C								
J7A260000-382-LCS								
01/23/2007 09:51		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
	MANAGER CONTRACTOR CON	teller to the second se					1	The second secon
STL Richland Key	r: In - Initial Amt, fi - Fina				ISV -	Insufficient Volume for A	Analysis	WO Cnt: 6
Richland Wa	pd - Prep Dt. r - Referen	ne Dt. ec-Enrichment	Cell_ct-Cocktailed_Add	ed				ICOC v4.8.26

/26/2007 4:36:51 PM	1		Sample	e Preparation/	/Analysis		Balance Id:				
			8 NO SAMPLE PR	REPARATION PERI	FORMED / DIREC	CT INJECTION	Pipet #:				
nalyDueDate: 03/09	9/2007		51 CLIENT: HANFO			Sep1 DT/Tm Tech:					
Satch: 7026382		44.70			**************************************	 Sep2	DT/Tm Tech:				
EQ Batch, Test: None							Prep Tech:				
Work Order, Lot,	Total	Initial Aliquo	ot   QC Trace	er Count	Detector	Count On Off		II Commonto:			
Sample DateTime	Amt/Unit		Prep Date		Id	(24hr) Circle	CR Analyst, Init/Date	Comments:			
Comments:											
l Clients for Batch	£				W			***************************************			
		National Laboratory	Pacific Nor	thwest National D	Lab, SA , 576	71					
I8VH1AA-SAMP Constit	tuent List:	·					**************************************				
	cuciic LLL.	•									
IGXQ1AA-BLK:											
GXQ1AC-LCS:											
18VH1AA-SAMP Calc Ir	nfo:										
Uncert Level (#:		Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B						
Uncert Level (#s	s).: 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B						
NGXQ1AC-LCS: Uncert Level (#s	s).: 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B						
				•	<b>.</b> _						
				Appı	roved By		Date:	VIIIA DE LE CONTROL DE LA CONT			
STL Richland Key: I	In - Initial Amt	, fi - Final Amt, di - Dilute	ed Amt, s1 - Sep1, s2	- Sep2 Page 2	ISV	- Insufficient Volume for Ana	ılvsis	WO Cnt: 6			

pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Richland Wa.

ICOC v4.8.26

RQC050

#### Severn Trent Laboratories, Inc. WET CHEM BATCHSHEET

Run Date: 2/28/07 Time: 11:59:35

#### STL Richland

#### PRODUCTION FIGURES - WET CHEM

TOTAL NUMBER	SAMPL NUMBE		QC	RE-R MATR			-RUN HER		ISC JMBER		OTAL OURS	EXPANDED DELIVERABLE
METHOD: QC BATCH PREP DATE COMP DATE USER:	#: <b>7</b> E: E:	Z COLI 026382 1/26/0 1/26/0 ILLER	)7 )7	METHO	 D 922			LS: EP AL		I	DATA EN INITI DATE	
Work Order	r Lal	b Numb	per		Struc Anal			Exp. Del.	Anal Dat	ysis e	Sampl	e ID:
JM8VH-1-AA	A J-'	7A2302	259-001	XX	I 88	BIZ	51	E	<		B1L6H	б
JM8V0-1-AA	J-'	7A2302	259-002	XX	I 88	IZ	51	E			B1L6J	0
JM8V0-1-AC	J-'	7A2302	259-002-	-x xx	I 88	IZ	51	Ε	<		B1L6J	0 DUP
JM8V2-1-AA	J-'	7A2302	259-003	XX	I 88	IZ	51	E	<	1	B1L6D	8
JNGXQ-1-AA	J-'	7A2600	000-382-	-B XX	I 88	IZ	51		<		INTRA	-LAB BLANK
JNGXQ-1-AC	Z J-′	7A2600	000-382-	-C XX	I 88	IZ	51			<u>3.5</u>	INTRA	-LAB CHECK
		·····		Coi	ntrol	Lir	nits		***************************************			

(0-0)

GB 2/28/07

2/14/2007 1:26:48 PM

# ICOC Fraction Transfer/Status Report ByDate: 2/14/2006, 2/19/2007, Batch: '7026401', User: \*ALL Order By DateTimeAccepting

Q Batch Work	Ord CurStat	tus A	ccepting		Comments
7026401		***************************************			
4 <i>C</i>	CalcC	BockJ	2/2/2007 9:24:0	06 AM	
SC		andersonp	IsBatched	1/26/2007 4:38:03 PM	ICOC_RADCALC v4.8.26
SC .		BockJ	InPrep	2/2/2007 9:24:06 AM	RICH-RC-5014 Revision 6
SC		BockJ	Prep1C	2/2/2007 9:27:57 AM	RICH-RC-5014 REVISION 6
6C		AshworthA	InPrep2	2/12/2007 11:43:43 AM	RICH-RC-5014 REVISION 6
SC .		AshworthA	Prep2C	2/13/2007 1:57:39 PM	RICH-RC-5014 REVISION 6
SC .		BlackCL	InCnt1	2/13/2007 2:00:54 PM	RICH-RD-0003 REVISION 4
SC .		DAWKINSO	CalcC	2/13/2007 7:28:23 PM	RICH-RD-0003 REVISION 4
SC .		BlackCL	InCnt1	2/14/2007 10:52:02 AM	RICH-RD-0003 REVISION 4
SC .		StringerR	CalcC	2/14/2007 12:53:54 PM	RICH-RD-0003 REVISION 4
C		BockJ	2/2/2007 9:27:5	57 AM	
C		BockJ	2/2/2007 9:28:4	40 AM	
ıC		AshworthA	2/12/2007 11:4	3:43	
iC		AshworthA	2/13/2007 1:57	:39 PM	
1C		BlackCL	2/13/2007 2:00	:54 PM	
1C		DAWKINSO	2/13/2007 7:28	:23 PM	
IC		BlackCL	2/14/2007 10:5	2:02	
1C		StringerR	2/14/2007 12:5	3:54	

AC: Accepting Entry; SC: Status Change

2/14/2007 11:08:35 AM

# ICOC Fraction Transfer/Status Report ByDate: 2/14/2006, 2/19/2007, Batch: '7026402', User: \*ALL Order By DateTimeAccepting

Q Batch Work	Ord CurStat	tus A	ccepting		Comments
7026402					
AC	CalcC	BockJ	2/2/2007 9:18:5	51 AM	
SC		andersonp	IsBatched	1/26/2007 4:38:03 PM	ICOC_RADCALC v4,8.26
SC		BockJ	InPrep	2/2/2007 9:18:51 AM	RICH-RC-5014 Revision 6
SC		BockJ	Prep1C	2/2/2007 9:23:42 AM	RICH-RC-5014 REVISION 6
SC		AshworthA	InPrep2	2/12/2007 11:43:50 AM	RICH-RC-5014 REVISION 6
SC		AshworthA	Prep2C	2/13/2007 1:57:50 PM	RICH-RC-5014 REVISION 6
SC		BlackCL	InCnt1	2/13/2007 2:00:58 PM	RICH-RD-0003 REVISION 4
SC		DAWKINSO	CalcC	2/13/2007 7:28:40 PM	RICH-RD-0003 REVISION 4
AC		BockJ	2/2/2007 9:23:4	12 AM	
AC		BockJ	2/2/2007 9:28:5	52 AM	
AC		AshworthA	2/12/2007 11:4	3:50	
AC		AshworthA	2/13/2007 1:57	:50 PM	
AC		BlackCL	2/13/2007 2:00	:58 PM	
AC		DAWKINSO	2/13/2007 7:28	:40 PM	

AC: Accepting Entry; SC: Status Change

2/12/2007 2:43:01 PM

# ICOC Fraction Transfer/Status Report ByDate: 2/12/2006, 2/17/2007, Batch: '7026384', User: \*ALL Order By DateTimeAccepting

Batch Wo	rk Ord CurStat	tus A	ccepting		Comments
7026384					
1C	CalcC	BockJ	2/1/2007 9:11:2	20 AM	
SC		andersonp	IsBatched	1/26/2007 4:36:25 PM	ICOC_RADCALC v4.8.26
SC .		BockJ	InPrep	2/1/2007 9:11:20 AM	rich-rc-5016 rEVISION 6
C		BockJ	Prep1C	2/1/2007 9:28:32 AM	RICH-RC-5016 REVISION 6
C		ManisD	InSep1	2/1/2007 9:31:39 AM	RICH-RC-5006 REV 6
C		ManisD	Sep1C	2/2/2007 4:30:42 PM	RICH-RC-5006 REV 6
C		DAWKINSO	InCnt1	2/2/2007 4:43:13 PM	RICH-RD-0007 REVISION 5
C		DAWKINSO	Cnt1C	2/2/2007 7:52:09 PM	RICH-RD-0007 REVISION 5
C		ManisD	Sep2C	2/9/2007 2:23:20 PM	RICH-RC-5071 REV 4
0		StringerR	InCnt1	2/9/2007 2:25:12 PM	RICH-RD-0003 REVISION 4
O .		StringerR	CalcC	2/11/2007 11:45:45 AM	RICH-RD-0003 REVISION 4
0		BockJ	2/1/2007 9:28:3	32 AM	
9		BockJ	2/1/2007 9:28:4	1 AM	
C		ManisD	2/1/2007 9:31:3	9 AM	
0		ManisD	2/2/2007 4:30:4	2 PM	
C		DAWKINSO	2/2/2007 4:43:1	3 PM	
C		DAWKINSO	2/2/2007 7:52:0	9 PM	
C		ManisD	2/9/2007 2:23:2	0 PM	
0		StringerR	2/9/2007 2:25:1	2 PM	
C		StringerR	2/9/2007 2:25:3	88 PM	
		StringerR	2/11/2007 11:4	5:45	

AC: Accepting Entry; SC: Status Change

2/22/2007 1:22:20 PM

#### ICOC Fraction Transfer/Status Report ByDate: 2/22/2006, 2/27/2007, Batch: '7026400', User: \*ALL Order By DateTimeAccepting

Batch Wor	k Ord CurStat	tus A	ccepting		Comments
026400					
iC	CalcC	BockJ	2/15/2007 11:5	5:55	
C		andersonp	IsBatched	1/26/2007 4:38:03 PM	ICOC_RADCALC v4.8.26
;		BockJ	InPrep	2/15/2007 11:55:55 AM	rich-rc-5017 rEVISION 5
0		BockJ	Prep1C	2/15/2007 12:28:03 PM	RICH-RC-5017 REVISION 5
)		BostedD	InPrep2	2/19/2007 1:14:07 PM	RICHRC5025 REV3
2		BostedD	Prep2C	2/21/2007 2:12:04 PM	RICHRC5025 REV3
2		StringerR	InCnt1	2/21/2007 2:32:47 PM	RICH-RD-0007 REVISION 5
2		DAWKINSO	CalcC	2/21/2007 8:47:02 PM	RICH-RD-0007 REVISION 5
		BockJ	2/15/2007 12:2	7:44	
		BockJ	2/15/2007 12:2	8:03	
		BostedD	2/19/2007 1:14	:07 PM	
0		BostedD	2/21/2007 2:11	:45 PM	
0		BostedD	2/21/2007 2:12	:04 PM	
2		StringerR	2/21/2007 2:32	:47 PM	
С		DAWKINSO	2/21/2007 8:47	:02 PM	
C		DAWKINSO	2/21/2007 9:10	:03 PM	

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

2/5/2007 4:16:45 PM

# ICOC Fraction Transfer/Status Report ByDate: 2/5/2006, 2/10/2007, Batch: '7026396', User: \*ALL Order By DateTimeAccepting

Batch Work O	rd CurStat	tus Ad	ccepting		Comments
7026396					
IC	CalcC	BockJ	2/1/2007 10:49	:26	
SC .		andersonp	IsBatched	1/26/2007 4:38:03 PM	ICOC_RADCALC v4.8.26
SĆ.		BockJ	InPrep	2/1/2007 10:49:26 AM	rich-rc-5016 rEVISION 6
îC		BockJ	Prep1C	2/1/2007 11:02:00 AM	RICH-RC-5016 REVISION 6
C		HarveyK	Sep1C	2/2/2007 4:31:34 PM	RICH-RC-5065 REV5
C		DAWKINSO	InCnt1	2/2/2007 4:43:36 PM	RICH-RD-0001 REVISION 3
C		StringerR	CalcC	2/4/2007 12:50:20 PM	RICH-RD-0001 REVISION 3
C		BockJ	2/1/2007 11:02	:00	
C		HarveyK	2/2/2007 4:31:3	34 PM	
C		DAWKINSO	2/2/2007 4:43:3	36 PM	
C		StringerR	2/4/2007 12:50	:20 PM	

AC: Accepting Entry; SC: Status Change

2/7/2007 8:04:08 AM

#### ICOC Fraction Transfer/Status Report ByDate: 2/7/2006, 2/12/2007, Batch: '7026385', User: \*ALL Order By DateTimeAccepting

Q Batch Wor	k Ord CurStat	us A	ccepting		Comments
7026385	(A)	···			
AC	CalcC	McDowellD	2/2/2007 11:23	:21	
SC		andersonp	IsBatched	1/26/2007 4:36:25 PM	ICOC_RADCALC v4.8.26
SC		McDowellD	Sep1C	2/2/2007 11:23:21 AM	RICH-RC-5007 REVISION 6
SC		BlackCL	InCnt1	2/2/2007 11:26:05 AM	RICH-RD-0001 REVISION 3
SC		StringerR	CalcC	2/4/2007 12:09:35 PM	RICH-RD-0001 REVISION 3
4 <i>C</i>		BlackCL	2/2/2007 11:26	:05	
AC		StringerR	2/4/2007 12:09	35 PM	

AC: Accepting Entry; SC: Status Change

STL Richland Richland Wa.

Grp Rec Cnt:3 ICOCFractions v4.8.26 2/28/2007 4:15:37 PM

#### ICOC Fraction Transfer/Status Report ByDate: 2/28/2006, 3/5/2007, Batch: '7026383', User: \*ALL Order By DateTimeAccepting

Batch Work Ord	n Work Ord CurStatus Accepting				Comments
7026383					
AC .	Cnt1C		2/1/2007 12:29:48 PM		
SC		andersonp	IsBatched	1/26/2007 4:49:02 PM	ICOC RADCALC v4.8.26
SC		BockJ	InPrep	2/1/2007 12:29:48 PM	rich-rc-5016 rEVISION 6
SC		BockJ	Prep1C	2/1/2007 12:36:19 PM	RICH-RC-5015 REVISION 4
SC		AntonsonL	InPrep2	2/20/2007 11:32:42 AM	RICH-RC-5015 REVISION 4
SC		AshworthA	InPrep2	2/20/2007 11:33:03 AM	RICH-RC-5015 REVISION 4
SC		AshworthA	Prep2C	2/21/2007 2:17:22 PM	RICH-RC-5015 REVISION 4
SC		AntonsonL	Prep2C	2/21/2007 2:17:34 PM	RICH-RC-5015 REVISION 4
SC .		NelsonT	Cnt1C	2/28/2007 2:54:46 PM	RICH-RC-5058 REV 7
IC		BockJ	2/1/2007 12:36	:19 PM	
c c		AntonsonL	2/20/2007 11:3	2:42	
		AshworthA	2/20/2007 11:3	3:03	
IC		AshworthA	2/21/2007 2:17	:22 PM	
AC .		AntonsonL	2/21/2007 2:17	:34 PM	
AC .		NelsonT	2/28/2007 2:54	:46 PM	

AC: Accepting Entry; SC: Status Change